SEPTEMBER
1952

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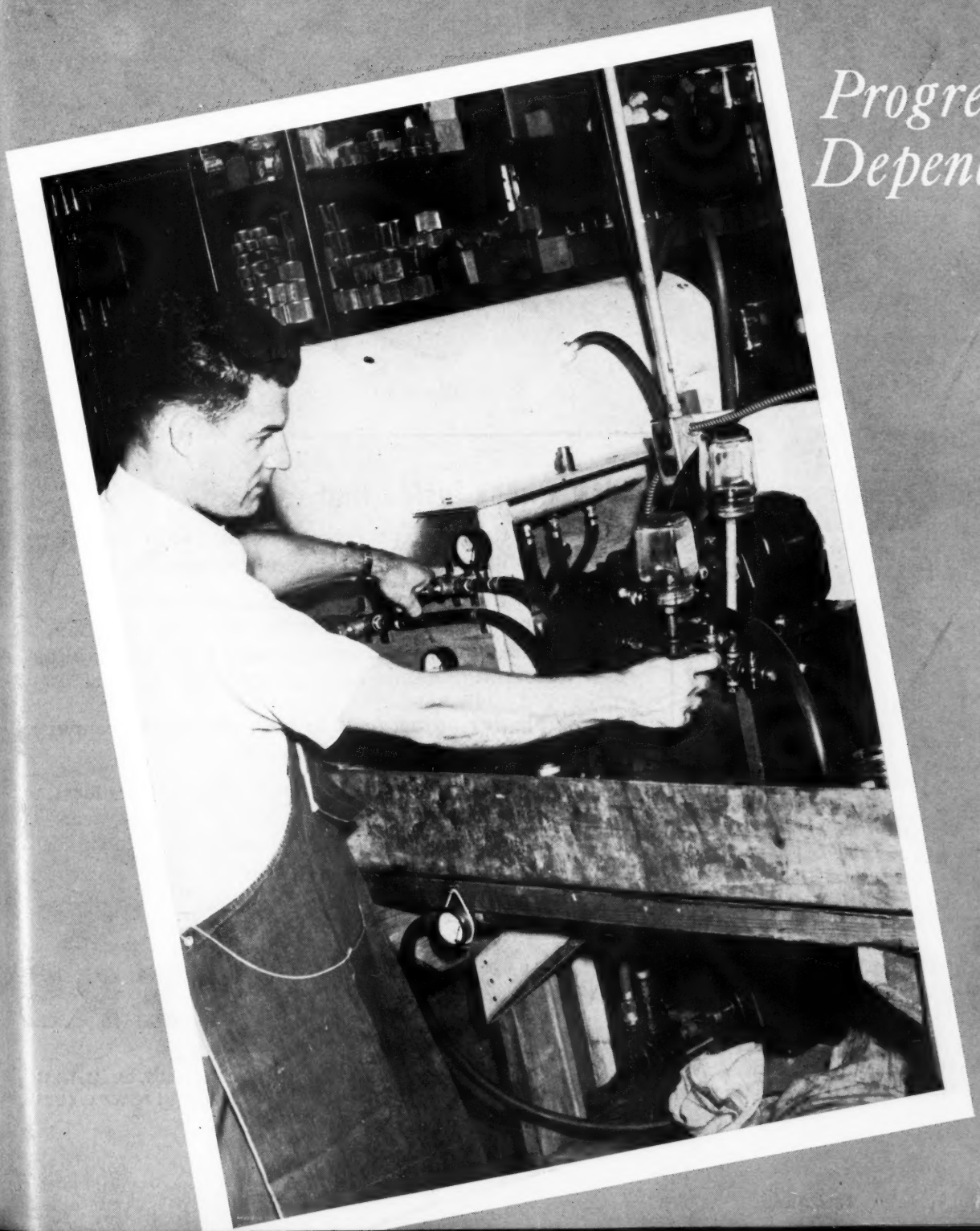
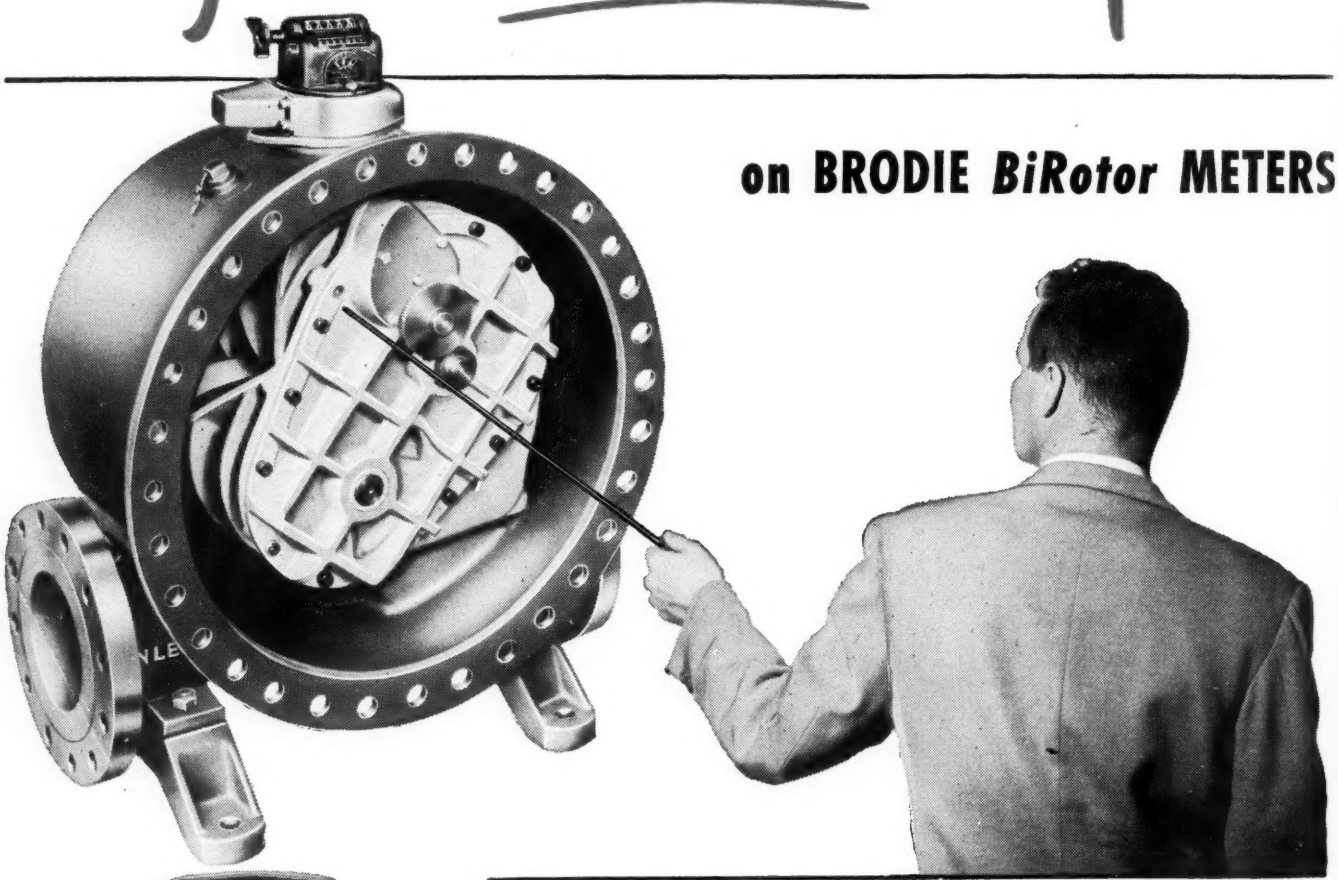
fueloil & oil heat

Progressive
Dependable



Get the Inside Story

on BRODIE *BiRotor* METERS



It's what's inside that counts

Look into the heart of a Brodie BiRotor Meter and find what you'll get in terms of performance and service:

- **Just two moving parts in measuring unit**
- **No metal-to-metal contact in metering chamber**
- **Completely interchangeable unit-built assemblies**
- **Static and dynamic balance for vibrationless operation**
- **Simple dry adjustment to high precision accuracy**
- **Welded all-steel meter housing**

These exclusive features of Brodie BiRotor Meters mean millions of gallons of service with no measurable wear—less maintenance—less repair. Get the inside story on Brodie BiRotors today. Write for full details.

BRODIE ALL-STEEL BiRotor TRUE-ROTARY METERS

RALPH N. BRODIE CO., INC. • ALVARADO & WEST 137th AVE., SAN LEANDRO, CALIFORNIA, U. S. A.

Division Offices: 550 SO. COLUMBUS AVE., MT. VERNON, N. Y. • 59 E. VAN BUREN, CHICAGO 5, ILL. • 167 PARKHOUSE STREET, DALLAS, TEXAS
221 9th AVE. N., SEATTLE 9, WASH. • 5401 E. SHEILA STREET, LOS ANGELES 22, CALIF. • *REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES*

SEPTEMBER fueloil & oilheat 1952

VOLUME 11 NUMBER 9

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Among other things . . .

The new cover design was made up special for our July issue, the 30th Anniversary number and then we went back to the regular style for August. But a number of readers complained. They thought we had gone modern at last and were disappointed to learn it was only a flash. So here we are again and will stay that way for a while. It's kind of fancy window dressing so what's inside had better be good.

The two articles by Schulz and Bennett almost look like conniving, but actually neither knew the other had any such designs on the industry. Schulz develops the theme that a fueloil man can't do a job for his customers unless he has studied and learned the oilburner business, and preferably gone into it. Bennett on the other hand assumes that most fueloil marketers are in the burner business and raps their knuckles for taking losses on burner sales.

CUT YOUR COSTS ON SHIPPING, HANDLING, STORAGE SPACE!

Galongage

can help you because it weighs only 2/3rds as much as standard lever arm type gauges; takes but 1/4th the storage space.

Higher shipping charges must be met! Galongage is the only gauge which can be shipped in a standard carton of 24 by Parcel Post.

Galongage

Crown your installations with quality! Galongage accurately reveals contents of oil storage tanks in readings of 10's of gallons. Underwriters approved. Comes securely packaged in its sturdy cardboard carton which fits into serviceman's tool kit without fear of damage.

Quick, easy installation assured because Galongage requires neither assembling nor disassembling on the job.

Galongage can be installed even in really tight quarters; *only four inches of clearance necessary.* Quality construction throughout. Float *cannot* become oil-logged.

Available for 275, 250 and 220 gallon tanks having depths of 44", 42", 27" and 26" with 1½" or 2" tank openings; also for off-size tanks calibrated in inches. Give your jobs that "extra" touch: use Galongage — the gauge with overwhelming customer appeal!

International

Approved by Underwriter's Laboratories, International is best of the lever arm type gauges for your lower price field. Factory assembled, its flexible float arm permits immediate oil-tight Installation.

The large, easily-read numbers on the aluminum dial are calibrated in "eighths".

Fil-thru

Gauge, vent and fill-pipe all in one unit for 55-gallon drums. No tools whateyer necessary for installation!

MANUFACTURED BY

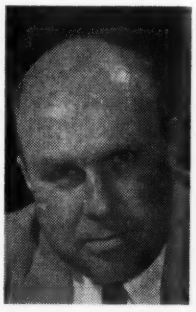
APPLIED MECHANICS CO.

167 OLIVER STREET · BOSTON 10, MASSACHUSETTS

WRITE FOR DETAILS TODAY!

Names in the News

A. E. Olson has been appointed sales manager, Nu-Way Corp., Rock Island, Ill. Greater emphasis on and closer coordination of Nu-Way's selling effort is the reason for the filling of this position. Olson has been in the heating industry for 25 years, six of those years with Nu-Way. His background includes manufacturer and wholesaler experience.



Richard Toellner has been added to the Industrial Sales Div., Webster Electric Co., Racine, Wis. Toellner will serve as sales representative contacting heating equipment manufacturers in the middle western states. Toellner has been district sales manager with the Perfex Corp. and has participated in several national warm air schools and forums. He was sales coordinator for the Monarch Mfg. Co. before joining Webster Electric.

A. H. Lockrae, vice-president, Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn., has retired after nearly 30 years of service. His retirement was dictated for reasons of health. "This means," explains "Lock," "that I must take things easy, not get tired or worried, have plenty of rest and minor responsibilities. Meeting those requirements — considering my temperament, the pleasures of accomplishment and the work habits of a lifetime

From fluid heat . . . another new burner for More Profits!

Sell this newly improved version of Fluid Heat's famous WALL-FLAME ROTARY BURNER!

IT'S HERE! An even better Wall-Flame Rotary Burner from the laboratories that helped perfect it — Fluid Heat! The time-tested, ingenious design of this improved burner sets a new standard of heating efficiency for today's small homes . . . the homes you're selling, more and more!

Tell your customers about the features of this new burner— about the Wall-Flame wiping principal that uses only the minimum amount of oil necessary! The one moving part, that assures longer life and freedom from attention! The heavy-duty transformer, that gives extra years of service! You'll find all these features, plus the modern appearance of the new Fluid Heat Rotary Burner, add up to real selling advantages for you!

Start pushing the new Fluid Heat Rotary Burners and Rotary-Fired Warm Air Furnaces *now!* If you're not already selling this high-profit, top-quality line, write us for details. Address: FLUID HEAT DIV., Anchor Post Products, Inc., 6700 Eastern Avenue, Baltimore 24, Maryland.

AND HERE'S THE ADVERTISING THAT'S HELPING YOU *SELL!*

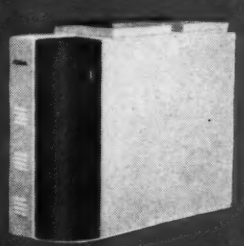
These ads in *Saturday Evening Post* and *Better Homes and Gardens* tell over 7,500,000 people a month to see *YOU* for the best in oil-fired heating equipment.

fluid heat
AUTOMATIC HEATING EQUIPMENT
"WORLD'S ECONOMY CHAMPION"

Famous Fluid Heat Pressure Burners. Four models, with firing rates from 7/10 to 12 gallons per hour.

Famous Fluid Heat Wall Flame Rotary Burner. Firing rates start at 1/2 gallon per hour.

Famous Fluid Heat Boiler Burner Units. Six models, rated from 300 to 1090 sq. ft. of standing steam.



Famous Fluid Heat Warm Air Furnaces. Seven models, from 70,000 to 200,000 B.T.U. per hour.

Announcing

ASCO BULLETIN 8262

SOLENOID VALVE WITH

Time Delay Feature

ASCO can now supply the Bulletin 8262 solenoid shut-off valves with a time delay feature for oil burner service.
This arrangement provides a delay of approximately 5½ seconds before the valve opens after it has been energized and will allow ample time for full flow of air to support compete combustion and purge the burner of oil fumes. Troublesome, lazy and smoky starts are eliminated, resulting in increased operating efficiency. Shut-off is instantaneous and positive, a soft composition disc insuring absolutely drip-tight shut-off. Valve has ⅛-inch pipe size, and full 1/16-inch port size suitable for flow capacities up to 15 gallons per hour and a maximum pressure of 150 pounds. Also ⅛-inch port for pressures up to 125 pounds with time delay of approximately 6½ seconds and 40 gallons per hour flow. Standard body is brass, with stainless steel available for special applications at slight additional cost. Standard, continuous-duty coil with incorporated time delay for operation on 115 volts, 60 cycles. Valve can be mounted in any position without affecting time delay. Write for further details requesting information on Catalog No. 82621-TD.
ASCO can also supply the Bulletin 8314, Three-way Midget Valves with the same time delay feature, making them suitable for special applications and unloading service on compressors, where time delay is desired. Request information on Catalog No. 83141-TD.

• • •

These two special Time Delay Valves are indicative of the design and manufacturing service available to industry through our engineering department. We shall be glad to help you in your problem.

V-52-3

When in need of Automatic Transfer Switches, Remote Control Switches, Contactors, Relays, and Specialized Electromagnetic Controls, come to us.

ASCO Solenoid Valves

Automatic Switch Co.

385-F Lakeside Avenue • Orange, New Jersey

—presents a problem with only one answer. So, the old hoss is going out to pasture in Patagonia, Arizona, where my little ranch will give me all the occupation I need. The latch string will always be out and don't forget that Uncle Sam delivers mail every day."

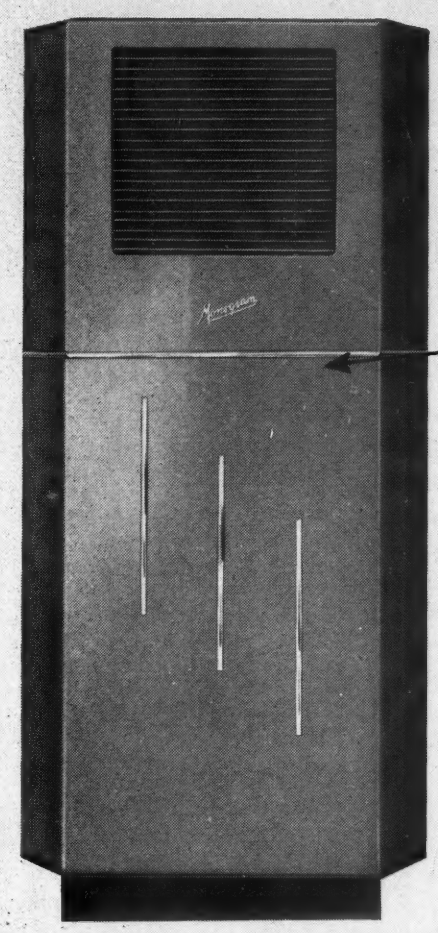
Elmer H. Lanthorn has been appointed general sales manager, Blackmer Pump Co., Grand Rapids, Mich. Lanthorn had been associated with Peerless Pump Div., Food Machinery & Chemical Corp. since 1946 in engineering and sales management functions. He was layout engineer with the Dravo Corp. for five years. Lanthorn graduated from West Virginia Institute of Technology and is recognized as an authority on pumps.

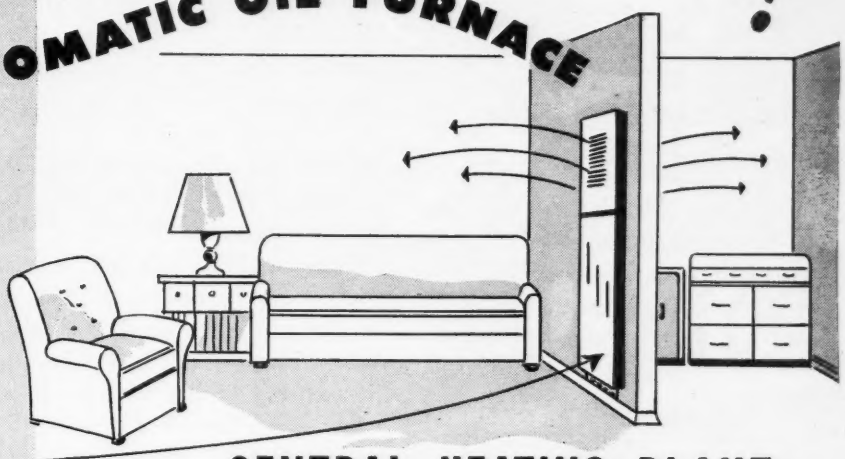
Richard K. Light has been named district sales manager, Timken Silent Automatic Div., Timken - Detroit Axle Co., Jackson, Mich. His territory will include North Carolina, Virginia and part of Maryland. Light for 12 years has been a retail salesman for W. R. Nagle, TSA dealer in Reading, Pa. Prior to that he was associated as a salesman with a wholesale plumbing firm in West Chester, Pa.

Robert H. Collacott has been named an assistant to the chairman of the board of The Standard Oil Co. (Ohio). Collacott, who has been manager of marketing research since August, 1949, will have special responsibilities in the field of economics. Collacott joined Sohio in the credit department thirty years ago and during World War II, served as chief of the price section, petroleum products division, Office of Price Administration, in Washington.

SELL Monogram and be FIRST in SALES!

THE NEW AUTOMATIC OIL FURNACE





...a CENTRAL HEATING PLANT at SPACE HEATER COSTS!

Solves the problem of low-cost heating in small homes. There's none so adaptable yet so efficient in delivering clean, uniform heat. The MONOGRAM Oil Furnace performs so perfectly due to its exclusive "Forced Air" Burner... the patented vaporizing burner that gives more BTU's per gallon of oil than any other... that owners do not hesitate to praise both its efficiency and economy!

IDEAL FOR SMALL HOMES

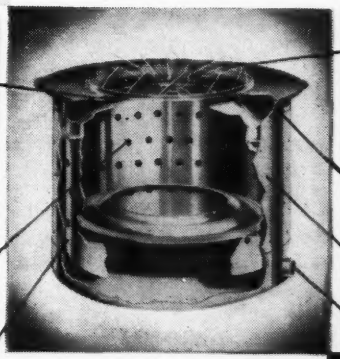
Heats four or five room homes comfortably. Affords dual register heating from the wall as shown, and is fully automatic. Heat is thermostatically controlled all 24 hours of the day.

REQUIRES NO EXPENSIVE DUCT WORK or FLOOR SPACE

The MONOGRAM OIL FURNACE fits in the wall. Can be installed in a day, since no duct work is required, nor does it take up valuable floor space. Heated air is forced out at eye level. Furniture may be placed directly in front of the Furnace!

ONLY 4" OF FURNACE EXTENDS IN YOUR LIVING ROOM

That's why the MONOGRAM FURNACE is ideally adapted to small homes where space is valuable. The beautiful outer cabinet in baked enamel fits into any decorative scheme. It's attractive as well as serviceable.


TEETH ON TUBULATOR RING BREAK UP SECONDARY AIR INTO SMALL STREAMS AND MIX IT WITH BURNING GAS AT A POINT OF COMBUSTION
GAS AND PRIMARY AIR BURNS HERE
GAS AND PRIMARY AIR MIX HERE
ROTOR PLATE PRODUCES SHORTER ACTIVE FLAME. MORE HEAT FROM SIDES OF HEATER
SECONDARY AIR INLETS TO COMPLETE COMBUSTION
PRIMARY AIR INLETS
OIL INLET

OIL VAPORIZING PAN

WITH "FORCED AIR" BURNER THAT PRODUCES MORE HEAT AT LESS COST...

This exclusive feature of the MONOGRAM Automatic Furnace sets it apart... for greater performance and economy. Patented designing of this burner enables it to produce more BTU's of heat for its size, to deliver a wider range of operation and to work with equal efficiency in mild or cold weather.

SPECIFICATIONS A569 MONOGRAM OIL FURNACE

BTU Rating	65,000	Gauge of Combustion Drum	20
Combustion Drum	13 x 48	Max. Oil Consumption per 24 hrs. Gal.	1 4¾
Height from floor of front of cabinet	74½	Min. Oil Consumption per 24 hrs. Gal.	1⅜
Height from floor of back of cabinet	72	Grade Distillate recommended	No. 1
Width of Front	32	Motor	45 watt-1500 RPM
Width of Back	24		(High Impedance Protected)
Gauge Baffle	18	Shipping Weight	300 lbs.

WRITE TODAY FOR FULL INFORMATION

QUINCY STOVE MANUFACTURING CO.

QUINCY, ILLINOIS

Editorial Leaks

WRITING IN THE bulletin of the Oil Heat Assn. of Maryland, S. K. Yarrington, secretary, sympathizes with Transcontinental Gas Pipeline Company's grief over oil tankers. About 18 months ago an oil tanker dropped its 11,000 pound anchor on Transcontinental's big pipe under the Delaware River at Marcus Hook, depriving some 31,000 south Jersey gas users of fuel.

Now comes a Gulf oil tanker snagging its anchor and breaking the big Transcontinental pipe under The Narrows of New York Harbor, thus depriving Brooklyn of a lot of natural gas for this fall. Cost to repair, $2,000,000. Yarrington concludes, "Oh, for more captains with an aim like that."

❖

IT WAS BACK in August 1951, page 51 of that issue, that we described a system of "Painless Degree-Day Methods" developed by Jerry Cross of Cross Coal Co., Lawrence, Mass. Our good friend Parks Gwaltney of Durham, No. Car. saw the story, liked the system and put it to use. He liked it so well that he was telling friends about it at the Pinehurst spring convention.

The next we knew about it was a feature article in the July 23 issue of National Petroleum News describing Gwaltney's methods, and outlining the system. That was a minor surprise, but now comes Don Ward, assistant secretary of the North Carolina Oil Jobbers Assn., mentioning in a recent bulletin this incident and hoping that all of the associations members will read NPN.

By now we're groggy . . . education, it's wonderful. But then somebody has to originate the good stuff.

❖

COL. EDWIN DRAKE gets credit for be- the father of America's oil industry because he brought in the first well against some stiff odds to say the least. Then remembering that he was at heart a retired railroad conductor we have often wondered where he learned how to drill it.

Apparently he didn't. We now discover at long last that the well was drilled by "Uncle Billy" Smith who had been successfully drilling salt wells of considerable depth for years.

Now there's a Smith Memorial Committee sponsored by Pennsylvania's OIIC and it is arranging to have erected a suitable memorial shaft at Uncle Billy's grave, located at Hannahstown, Pa., near Butler.

It seems that Uncle Billy was paid $2.50 a day for drilling the well, with no charge for the services of his 16-year-old boy. As the father of two million present oilfield workers, he was worth every cent of it.

❖

WHEN THE TECHNICAL Div. of OHI was put together to undertake problems that are common to both the oil and burner industries an ambitious program of three major projects was launched for the first year. As these projects were being announced, Dave Bottrill of OHI suggested that it would be fine if we could have entree to one of the better scientific libraries to help with these studies, mentioning possibly the Crerar Library of Chicago. This is one of the outstanding scientific libraries of the world.

Correspondence now develops that Mr. Herman H. Henkle, Librarian at Crerar, is interested and will be very glad to consider a proposal from OHI. If this becomes official it will be very useful to the technical group.

❖

WE'RE BACK TO North Carolina again. We can't get away from a paragraph that Will Parker included in a leaflet that he passed out at the last convention of his oil jobbers. Will is executive secretary.

This leaflet, "Some Tips," tells the folks about dining room hours, about tipping, free Coca-Cola, and such. Then comes "Other beverages" with these useful remainders:

"No two people have the same drinking capacity; while a glass of cider will throw one it takes a quart of strong drink to throw another. If you belong to the first class and try to keep up with the latter, you may lose all sense of propriety and make a fool of yourself.

"When one imbibes to the point that he doesn't know when to stop, he is stupid. Let's all have a good time but not make a nuisance of ourselves. Many men have their wives with them . . . respect their wives as you would have your wife respected. You can't make a good impression by being a pig."

Who can quarrel with that? And it's mighty accurate observation for a teetotaller.

❖

ONE OF THE most effective consumer pieces on oilheating has been reposing in our "Leaks" file for quite a spell, waiting to be mentioned.

This is a four page mailing piece put out by Golden Glow Mfg. Co., Sioux City, Iowa. The top half of the first page is a very delightful close-up photo of a new bride and groom. The gal is blonde with all the filmy fripperies and the boy is in morning clothes wearing a sprig of lily of the valley and hair like Kreml.

The caption just below starts out—"To Love, Honor and Shovel Coal." The text goes on, "It's the happiest day of your life, your Wedding Day. It's as solemn as the vows you make for now, for tomorrow, forever. But—it should not be the beginning of drudgery . . . et cetera."

It is a good sales piece to mail to anyone, for while few are actually new brides, what hard-bitten husband can fail to recall what a tender morsel he had at the start and how she's been forced to toughen up under his neglect?

You can take it from there.

❖

A GROUP OF 13 oil men, specialists on the fueloil side, met in Chicago the first week in September to launch a study of bulk plant problems of local fueloil distributors. This is the first project undertaken by the new Fueloil Subcommittee of the Marketing Div. of the American Petroleum Institute.

When completed the findings will be prepared as a report for the annual meeting in November.

Present storage, costs of larger facilities, summer inducements to stimulate greater off-season movement, and other angles should be constructive.

How Many Dollars *is a Fuel Oil Account Worth* on Your Books

Who can put a true value on *your* fuel oil accounts? From $25 to $30 for each account is the general market price when you buy or sell a fuel oil business.

But only you know the *real* value of your particular customer list. Only you know the thinking, planning and striving over the days, months and years that made your account list what it is today.

Surely anything that will help you to protect this investment—these accounts that are the very heart of your business—is worth doing something about right now.

VENTALARM® Whistling Tank Fill Signal can be your most effective form of insurance against customer dissatisfaction and loss.

It is only through VENTALARM Signal that you can provide clean, truly automatic fuel oil delivery—the kind that relieves the customer of all old-fashioned delivery inconveniences.

Install Model "LC" VENTALARM Signal on *all* your old customer tanks. By so doing, you will protect the heart of your business, the customer *already on your books*. What's more, you will save up to 30% on delivery costs. Over 4,000 Fuel Oil Companies have tested these claims and found them true.

A SALES PLAN
FOR FUEL OIL ACCOUNTS
FUEL OIL DELIVERY METHODS HAVE CHANGED!
TODAY –
TIME is the essence of PROFIT
The following 11 pages tell
A POWERFUL STORY
OF PROFIT FOR YOU

WRITE TODAY FOR DESCRIPTIVE LITERATURE

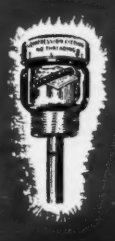
Ask for these two illustrated presentations by title.

SCULLY SIGNAL COMPANY
76 First Street, Cambridge 41, Mass.
Canadian Licensee: EMPIRE BRASS MFG. CO., Ltd., London, Ontario

Contact your REGULAR SUPPLY HOUSE for VENTALARM Signal in a variety of sizes . . . and other Scully Fuel Oil Delivery Aids.

All Scully Products are manufactured under U. S. & Foreign patents or patents pending.

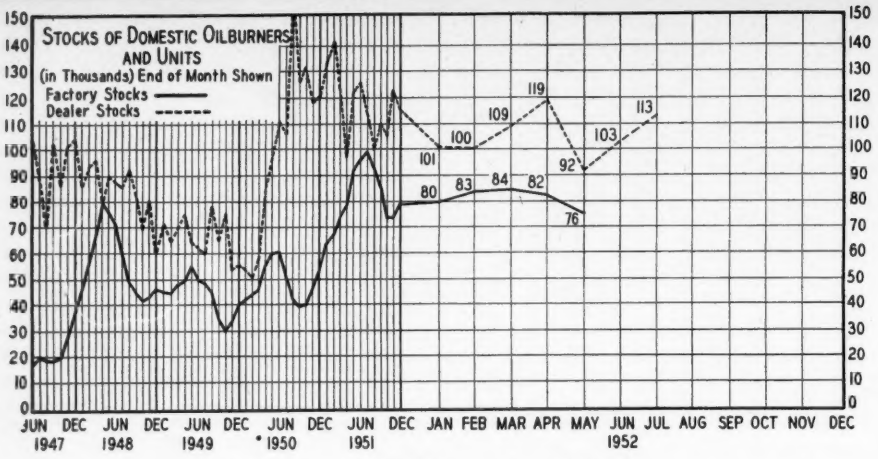
VENTALARM® SIGNAL
Whistling Tank Fill Signal



SCULLY® TANK GAUGE
Easy-to-See Gauge
Simple, Sturdy, Economical

VENTALARM® TANK GAUGE
Combination Audible Signal and Visible Gauge

FASFILL® CONNECTOR
Portable connection for gun and fill pipes of all sizes.

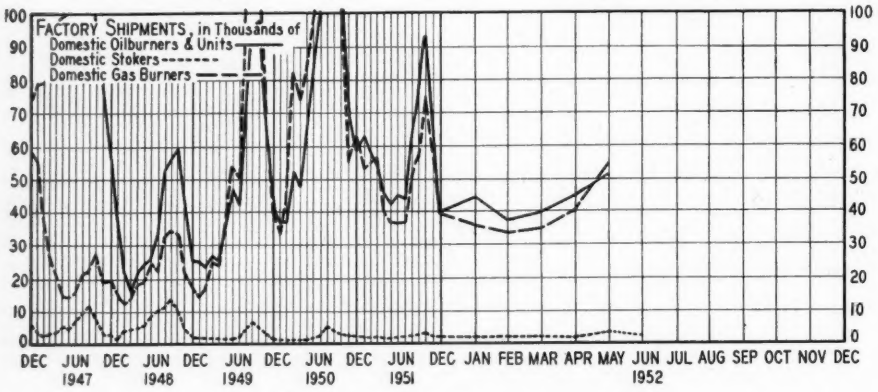


Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 146 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	MAY			FIVE MONTHS		
	1952	*1951*	*Percent Change*	*1952*	*1951*	*Percent Change*
Conversion	34,060	30,313	+ 12.3	149,412	186,028	— 19.6
Boiler Units	5,051	2,867	+ 7.6	16,859	25,255	— 33.2
Furnace Units	12,431	8,043	+ 54.5	53,603	53,666	— 0.1
All Domestic	51,542	41,223	+ 25.0	219,874	264,949	— 17.0
Commercial	2,636	2,969	— 11.2	12,253	18,184	— 32.6
Total	54,178	44,192	+ 22.6	232,127	283,133	— 18.0



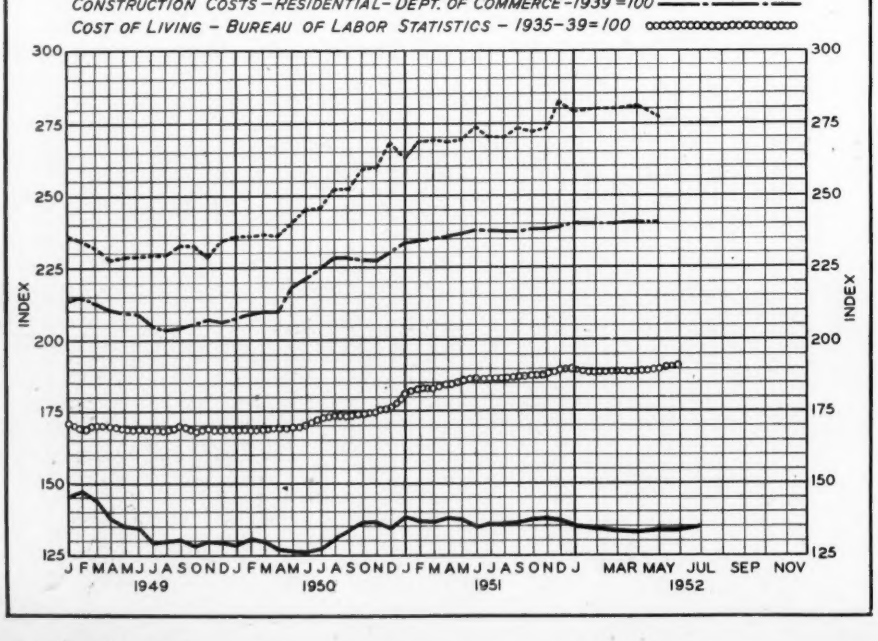
July Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
July Aver.	$328	$695	$643
June Aver.	327	700	638

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
July	142.1	Six months ago	138.8	July	134.7	Six months ago	135.4
June	141.6	Year ago	138.0	June	133.6	Year ago	136.1

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTRUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935–39 = 100
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Oilheating Trends

DOMESTIC OILBURNERS and units installed during July are estimated at 54,860, approximately 14% above last year's 48,183. July installations were divided: New homes 15,596; Replacements of old oilburners 7,671; Conversions from other fuels 31,593.

For the first seven months of the year the total installations were 308,601, compared with last year's 279,189, showing a rise of 11%.

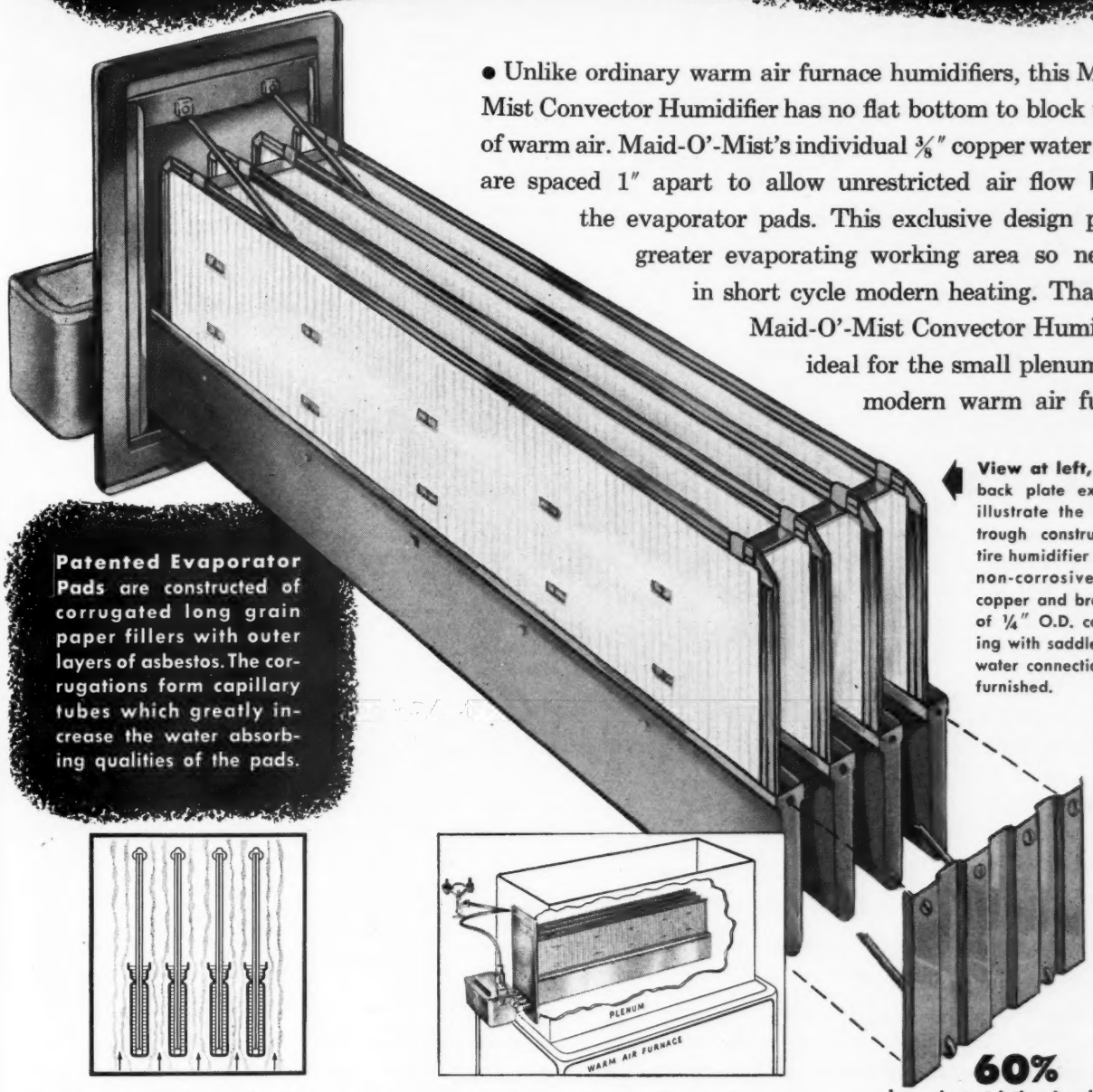
BURNER STOCKS: On the first of August oilheating dealers had in stock approximately 113,299 domestic oilburners and units. This compares with 102,915 the previous month and with 115,864 on August 1 a year ago. The present stocks are divided: Conversion burners 72,486; Boiler-burner units 18,439; Furnace-burner units 22,374.

TANK STOCKS: Stocks of consumer tanks in dealer hands on August 1 were approximately 124,347, a substantial rise from the previous month when they had been 107,284. A year ago on August 1 they were 160,220. That was clearly an excessive level built up by fears that they would get scarce. By sizes, August 1 stocks were divided: 220-275 gallon 114,690; sizes 550-675 gallon 5,723; sizes 1000 gallons or larger 3,934.

Again the average price paid by dealers for a 275 gallon size stood at $36, with sectional variation as follows: New England $32; Mid-Atlantic $38; Midwest $30; Pacific Northwest $47. The increase of $4 from last month in the Pacific Northwest reflects the fact that steel stocks out there come through warehouses and these were depleted by the strike.

STEEL STRIKE EFFECT: So far there has been very little damage to the oilheating industry from the steel strike, at least at the retail level. The dealers were asked this month how many jobs they were unable to complete during July because they could not get some missing item. The jobs actually delayed for this reason amounted to only one-third of 1% of the jobs that they did complete and this indicates that for the country as a whole the jobs held up were less than 200 in number. Asked what items held them up on these few

no plenum too small for the CONVECTOR HUMIDIFIER!



• Unlike ordinary warm air furnace humidifiers, this Maid-O'-Mist Convector Humidifier has no flat bottom to block the flow of warm air. Maid-O'-Mist's individual ⅜" copper water troughs are spaced 1" apart to allow unrestricted air flow between the evaporator pads. This exclusive design provides greater evaporating working area so necessary in short cycle modern heating. That's why Maid-O'-Mist Convector Humidifier is ideal for the small plenums of all modern warm air furnaces.

Patented Evaporator Pads are constructed of corrugated long grain paper fillers with outer layers of asbestos. The corrugations form capillary tubes which greatly increase the water absorbing qualities of the pads.

View at left, shows the back plate extended to illustrate the individual trough construction. Entire humidifier is made of non-corrosive metals—copper and brass. 6 feet of ¼" O.D. copper tubing with saddle valve for water connections is also furnished.

Note above how Maid-O'-Mist's exclusive individual trough design allows the air to flow freely up between the evaporator pads. The entire area of each of the large evaporator pads is in direct contact with the warm air flow thus providing 30% more evaporating surface.

This view shows why installation time can be reduced by 50%. You just cut opening in plenum and make water connections. 13 sizes available with evaporation capacities of 1 to 10 gals. of water per day. Get full information on these competitively priced units from your jobber or write for Bulletin 701-B.

60%
less air restriction in plenum

30%
more evaporation area

50%
less installation time

MAID-O'-MIST Inc.
HEATING SPECIALTIES

AUTOMATIC HUMIDIFIERS . . . . . AUTO-VENTS
WATER LINE CONTROLS . HEATING SPECIALTIES

MAID-O'-MIST, Inc.

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jobs the principal items were tanks, furnaces and return pumps. However such instances were so few as to be of little consequence.

Looking down the road through the seasonal peak from August through October three-fourths of the dealers expect to have no trouble in getting any product they want: one-fourth are pessimistic. Out of the total reporting group 17% expect trouble getting tanks, 8% are afraid of their supply of pipe, 5% think they will run out of galvanized sheets. A handful of dealers believe that they won't be able to get as many oilburners and units as they need, with their principal concern being over furnace- burner units.

FUELOIL FILL-UPS: Since the end of the heating season approximately 59% of all customer fueloil tanks were filled up to August 1. Strangely this identical figure keeps showing up year after year. The only real variation was in the summer of 1948 after the tight supply situation of the previous winter. Of course, the 59% fill-up applies to the country as a whole. In areas having a lot of summer hot water heating with oil the ratio is higher. For example, in New England it was 68%, in the Mid-Atlantic region 71% and in the Midwest only 37%.

FUELOIL BULK STORAGE: A number of questions were asked this month on fueloil bulk plants at local points, primarily to gather material for a study on this subject being made for the Fueoil Subcommittee of the American Petroleum Institute. The details of the findings will be included in the API report but here are a few highspots:

The average storage capacity of No. 2 oil for the reporting group is 11% of anticipated 1952 sales volume.

The average storage capacity of the reporting fueloil distributors on July 1 this year is 86% higher than the capacity for the group five years ago.

During that same five year period the sales of these companies increased only 56%, showing that storage is growing faster than sales.

To add 25% to their present storage capacity would cost the average reporting company $4.16 per barrel or 10 cents per gallon of capacity.

If these companies were to add 25% to their present storage capacities they estimate that they would be out of pocket .52¢ per gallon on the extra oil that they bought off-season. This would cover bank interest, insurance, interest and amortization of the extra plant investment.

A little more than one-third of the companies would be willing to practically double their present storage capacity if the oil industry would adopt a practice of allowing one-half cent additional margin during summer months. The remaining two-thirds of

(Please turn to page 194)

Oilburners* and Building Permits

OILBURNERS July 1952	OILBURNERS July 1951	OILBURNERS 7 MONTHS 1952	OILBURNERS 7 MONTHS 1951		DWELLINGS July 1952	DWELLINGS July 1951	DWELLINGS 7 MONTHS 1952	DWELLINGS 7 MONTHS 1951
40	69	242	407	Albany, N. Y.	..	..	..	..
169	288	969	1765	Baltimore, Md.	257	536	2238	3205
..	..	..	..	Binghamton, N. Y.	6	6	62	56
..	..	..	..	Bloomfield, N. J.	18	30	50	83
..	..	..	..	Boston, Mass.	178	23	379	169
75	90	414	532	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	34	52	357	341
..	11	..	31	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	72	72	448	540
594	501	4432	2184	Detroit, Mich.	469	275	2642	4296
43	82	252	323	Elizabeth, N. J.	11	2	43	33
50	22	231	245	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	60	27	234	261
..	..	..	..	Hackensack, N. J.	19	9	117	67
79	79	635	1060	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
55	39	256	237	Irvington, N. J.	1	7	19	31
..	..	..	..	Lynn, Mass.	14	19	122	79
22	7	202	184	Meriden, Conn.	..	..	..	..
567	71	2405	491	Milwaukee, Wisc.	342	297	1750	1723
37	66	571	381	Minneapolis, Minn.	88	128	627	866
24	32	147	150	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	0	37	7
38	27	180	160	Mt. Vernon, N. Y.	..	..	..	..
203	191	1071	996	Newark, N. J.	..	..	..	..
89	56	715	381	New Bedford, Mass.	..	..	..	..
52	47	381	302	New Haven, Conn.	..	..	.	..
..	..	..	..	New Orleans, La.	..	..	..	..
34	35	187	282	New Rochelle, N. Y.	19	13	153	88
..	2359	..	14689	New York City (total)	..	..	..	..
..	1783	..	11166	Brooklyn-Queens	..	..	..	..
610	576	3836	3523	Manhattan, Bronx, Rchd	..	..	..	..
25	122	444	1041	Norfolk, Va.	57	172	861	611
..	..	..	..	Oakland, Calif.	..	..	..	..
66	93	348	413	Omaha, Neb.	211	92	707	629
25	21	118	127	Orange, N. J.	5	0	14	33
18	19	147	128	Passaic, N. J.	..	..	..	..
85	54	429	354	Paterson, N. J.	16	11	120	125
..	821	..	4435	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	14	9	107	101
52	43	237	332	Portland, Me.	7	10	69	107
474	393	2566	2342	Portland, Oreg.	144	102	854	983
14	26	93	111	Poughkeepsie, N. Y.	..	..	..	..
57	92	665	476	Providence, R. I.	..	19	..	153
..	..	..	..	Reading, Pa.	7	1	44	56
17	31	234	456	Richmond, Va.	58	35	371	420
55	57	290	313	Roanoke, Va.	..	..	..	..
358	217	1747	1264	Rochester, N. Y.	..	..	..	..
16	18	94	143	Rockville Center, N. Y.	7	1	40	59
16	15	163	162	Salem, Mass.	9	7	36	49
187	227	904	844	St. Louis, Mo.	50	40	320	357
31	49	221	378	St. Paul, Minn.	91	107	688	669
20	36	230	423	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	139	109	1139	1211
..	..	..	..	Springfield, Mass.	52	52	465	448
66	27	391	360	Stamford, Conn.	..	..	..	..
4	4	44	31	Syracuse, N. Y.	40	41	301	187
..	..	..	..	Trenton, N. J.	5	8	103	34
..	..	..	..	Utica, N. Y.	13	18	91	95
67	44	636	461	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	15	52	258	199
30	35	160	190	White Plains, N. Y.	16	6	87	61
61	67	380	500	Wilmington, Del.	5	12	140	174
189	136	967	911	Worcester, Mass.	..	..	..	..
72	57	373	391	Yonkers, N. Y.	..	..	..	..
4788	4168	29007	25757	*Totals*	2535	2381	16093	18453
+14.9		+12.6		*Percent Change*	+6.5		—12.8	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

"I haul and pump 2½-ton loads, yet my running costs are

Only 5 1/10¢ a mile"

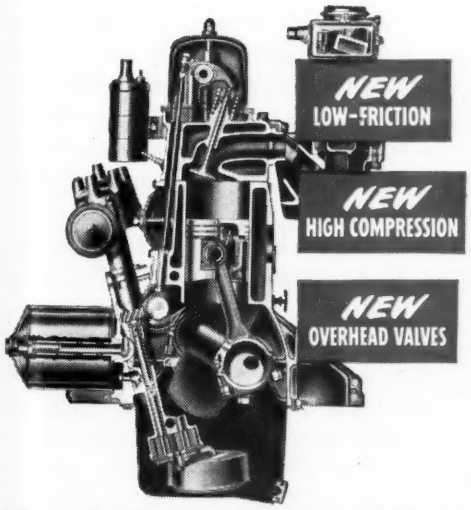
says Joseph G. Stangel
Onawa, Iowa

"I've had experience with many makes of trucks, but none of them cost as little to run as my Ford," says Mr. Stangel. "Ford Truck economy has made a big cut in the operating costs of my business." Mr. Stangel's F-6 Tanker traveled 11,222 miles during the Economy Run. Total costs for gas, oil and maintenance were $574.20 . . . or only 5.1 cents a mile!

This F-6 chassis is but one of many models available. There's a Ford Truck tailor-made for your job from half-ton pickups to 155-h.p. BIG JOBS.

FORD TRUCK ECONOMY RUN

IOWA
Report No. 11278



This new Ford 101-h.p. Cost Clipper Six is one of the best proved truck engines ever introduced. It had 50,000 dynamometer test-hours and over 500,000 vehicle test-miles.

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and more Speed Hauling power, too!

New LOW-FRICTION design in three new Ford Truck high-compression engines cuts friction loss!

Ford's LOW-FRICTION design cuts friction power loss up to 30%! A new Short-Stroke principle reduces piston travel up to 20%—makes for longer engine life. New OVERHEAD VALVES give more efficient fuel feeding. New HIGH-COMPRESSION gives extra power on regular grade gasoline.

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DON'T GUESS! See how little it can cost to run a truck in your kind of work. See the cost figures in this 144-page book showing results from the 50-million-mile Ford Truck Economy Run. See it at your Ford Dealer's!

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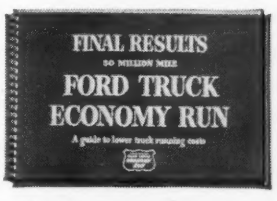

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fuel oil & oilheat

Government Influences on Fuels

by
Milburn Petty

WASHINGTON—Generally speaking, the Petroleum Administration for Defense says that it has no power to issue directives to assure "equitable distribution" of fueloil supplies so long as there is no over-all shortage in the area.

"We have no power to deal with businessmen's commercial problems, as such, when those problems have no direct relationship to the national security," declares the PAD.

"That means as long as there is over-all enough of a product supply in a given community to take care of the public, we would, generally speaking, lack authority to step in and give relief on any individual problem."

The PAD had been requested by Acting Defense Mobilizer John Steelman to take whatever steps are necessary—and within its powers—including eliciting voluntary action by oil refiners to asure an adequate production of fueloil and equitable distribution this winter.

New "Wherry Committee"?

If the PAD is unable or unwilling to act in cases of maldistribution of supplies in an area where consumers are still able to obtain their requirements from some supplier, it may be that the Senate Small Business Committee will step into the situation as it did in 1947-48 when the late Senator Wherry (R., Nebraska) was chairman.

It will be recalled that the Nebraskan evolved the so-called "Wherry Formula" under which each supplier was "requested" to take care of his last year's customers to the same extent and to share any increased supplies with them.

This formula was supposedly voluntary—but Wherry and his committee staff obtained compliance by pressing company officials—in open hearing—until they agreed, and then following up.

Now, the chairman of the small business committee is Senator Sparkman (D., Alabama), the Democratic vice presidential nominee, who has already evidenced much interest in the oil industry.

Acting on complaints from independent oil marketers in the West Coast area—particularly in the Northwest—that their supplies of fueloil and/or gasoline have been curtailed or cut off, Sparkman has written to a dozen or more large suppliers on the West Coast for data.

Month-by-month receipts and inventories of crude oil and products were requested; also, the names of fueloil and gasoline customers whose contracts were cancelled for lack of supplies.

From this data, Sparkman said the committee would determine whether anything can be done to help these marketers.

Jobbers Ask for "Fair Share"

Meanwhile, the National Oil Jobbers Council has requested—by resolution—the supplying companies, individually, to pledge that "the independent jobbers of the country will receive their proportionate and equitable share of any and all fueloil supplies available for the coming heating season."

In another action at its summer meeting, the NOJC voted to have another look at the idea of percentage mark-ups in lieu of flat margins on products sold by jobbers.

The council's marketing committee was instructed to make a study and report at the November meeting in Chicago.

Inland Refiners Get Price OK

Inland refiners in the East Coast area—mainly those in the Western Pennsylvania region—have been authorized by the Office of Price Stabilization to increase their FOB prices by 0.65¢ on heating oils in the area covered by the recent 0.80¢ increase (of which the jobber and distributor gets 0.15¢ for more margin).

Fuel Oil Margin Study OK'd

The OPS has finally approved—and sent out to its field offices for distribution—the questionnaires to be used by jobbers and distributors of fueloil in applying for margin relief.

OPS officials hope that these forms will be filled in and returned in time for processing before the heating season starts so that the necessary ceiling price adjustments can be made effective by then.

Briefly, the plan calls for wider margins where a "representative" sampling of jobbers and distributors in an area can show that their incomes before taxes now are less than in the 12 months immediately preceding outbreak of the Korean War.

While major suppliers will be excluded in obtaining the "representative" sampling, all sellers will be allowed the higher ceilings where an increased margin is found warranted. (It would do the independent marketers no good, if their major competitors were not likewise permitted to raise their prices.)

Gulf-East Coast Line Planned

The revised project of United States Pipe Line Co., for a 300,000 B/D products line from Beaumont, Tex., to Jackson, Tenn., and then 200,000 B/D to Newark, N. J., has been approved by the PAD with completion scheduled for September, 1953.

Light fueloils are expected to make up most of the tonnage moved through the line. It will offer both contract and spot rates, with the lowest contract rate (15,000 B/D guaranteed for five years) at 32.5¢ per barrrel on kerosene and 34¢ on distillate fuels.

The line will be owned and operated by non-shippers, headed by Paul Ryan and R. T. Haslam. Steel allocations, starting with the next quarter, total 211,000 tons whereas the full need is about 100,000 tons more. However, it is likely that the quarterly allocations will be stepped up so that the project can be completed by the winter of 1953-54.

PAD Studies Tanker Outlook

The PAD has sent out questionnaires to about 50 cargo buyers on the East Coast—majors and independents—asking for a report on tankers owned, chartered or bareboated in the 12 months beginning April, 1951, and for the volume of distillate moved to the East Coast, including that repre-

(*Please turn to page* 193)

fueloil & oilheat

Fueloil Men should know Burners

Burner Owners facing problems appreciate Help from fueloil Dealers

by
J. W. Schulz

COAL DEALERS should have CO_2 analyzers, stack thermometers, and draft gages to provide solutions to their customers' problems involving fuels, combustion, and heating. Without a draft gage, a coal dealer is helpless when poor chimney draft makes his coal burn poorly and the customer blames the coal. Without a CO_2 analyzer and a stack thermometer, he can't point out that excessive smokepipe loss, not low heat content of the coal, is responsible for excessive coal bills. Combustion testing instruments can be helpful to a coal dealer in dozens of ways. They can help him keep his old accounts, get new accounts, and build up the reputation of coal heat in general. Yet the coal dealers who would love to sell loads of coal to home owners have not become sufficiently modern-minded to use combustion instrumentation to protect and increase their business.

Helpful to Oilheating

This situation helps oilheating. At the same time, it sets a horrible example and it throws a spotlight on those fueloil retailers who, like the coal dealers, are too sluggish-minded to use modern methods to protect and increase their business. We've pointed a finger at combustion instrumentation only because a fuel dealer needs it to handle inevitable complaints about the quality and heat content of the fuel he sells. But mere instrumentation is not enough for the fueloil dealer who aims to appear modern-minded in handling complaints and extending worthwhile help to his customers.

Equipping himself with instruments is only the first step for the fueloil dealer who never owned instruments and never took an interest in his customers' oilburners. Next, he has to learn enough about oilburners to put the instruments to use and to obtain good readings from his customers' burners. He's got to learn all about proper installation and proper servicing of oilburners!

The fueloil retailer may receive a complaint about the quality of his oil from a customer whose oilburner was installed improperly. Poor installation work, not poor oil, is causing the trouble which the customer blames on the oil. Thus though he may not plan to ever install oilburners, the fueloil retailer must know a great deal about proper burner installation work.

Similarly he must know much about proper servicing, although he may not want to service his customers' burners, for he is certain to receive complaints about his oil from owners having trouble actually caused by poor service work. In addition, owners of neglected, dilapidated oil heating equipment often complain about fueloil quality. To handle their complaints, the fueloil retailer must point out specific defects in their equipment and perhaps suggest specific remedies.

The vast resources *of some of the largest oil companies are leading towards better oil heating. Here's a Socony-Vacuum laboratory man using highly developed equipment to check on niceties of combustion. At the home-town level of oil heating, local oil companies should contribute to better oil heating by taking an interest in the problems faced in their fueloil customers' basements.*

Instruments mean Knowledge

This article has had a defensive slant up to this point. The coal dealer aiming to sell coal to home owners cannot defend himself against competitive fuels and unwarranted customer complaints, because he lacks combustion instruments and the knowledge they represent. To defend himself against complaints about his oil, a fueloil dealer needs combustion instruments and knowledge of burners.

Many fueloil retailers are not content with mere defense. They advance. They strive to improve the status of oil heating in their localities, and their efforts fit beautifully into the overall pattern of efforts to provide excellent oil heating for every oilburner owner.

A recent instance of oil company effort in the direction of good oil heating involved about 300 homes located in Connecticut. A worried financier, interested in having the new owners of these homes make their monthly payments promptly and without grumbling, went to New York to discuss oil heating problems with a heating engineer. After listening to his account of how oilburner difficulties were causing the 300 home owners to declare they'd been stuck with lemons as far as their burners and heating plants were concerned, the heating engineer investigated the situation.

The builder of these homes had, as

other builders have done, shopped around and bought cheap forced-air furnaces complete with controls and pressure burners. His men had placed these furnaces in the homes. Tinsmiths ignorant of oilburners had installed supply and return ducts and registers. Plumbers had installed the oil lines from the tanks to the burners. House-wiring electricians had run electrical supply lines to the furnace units and installed the thermostats. The builder of the homes, who a year later could not be reached to answer questions about this, had completed his oil heating plants without a trace of advice or on-the-job help from an oilburner expert!

"Your oil heating plant is ready to use," the builder would say when he'd sold a house. "Of course, there's no oil in the tank, so the burner hasn't been started. After you move in, order oil and have somebody start the burner for you. It will just need air removed from the oil lines and pump, and that takes only a minute or two."

Caught in the Middle

Most of the burners were started in a matter of minutes by anyone who could be reached quickly and could possibly air-rid a pressure burner. By the end of the first heating season, most of the owners of the 300 homes were howling in unison that they'd been stuck with bum heating plants that pulsated, made noise, broke down often and expensively, and ran fuel bills twice the size they should be. The builder of the homes, responsible for the heating plants of course, proved able to put up with verbal and written abuse and complaints for months, then vanished as far as being a good target for the home owners was concerned. So they concocted the idea of making life miserable for this financier who was interested in prompt monthly payments from them. They succeeded. All he wanted, when he went to New York, was an answer for their heating troubles. Calling in typical local oilburner service men was getting these home owners nowheres, he said, or at least was not solving the oilburner problems of the majority, who were howling they'd been hooked. Summoned usually because of either no-heat or flame pulsation, a local service man would according to the owners tinker with the burner for half an hour or an hour, condemn the whole heating system, get the burner going after a fashion, and charge the owner plenty for the call.

Appealing to the manufacturer of the furnaces resulted in a visit from the manufacturer's representative. After seeing one of the furnaces giving trouble, he announced that he was not an oilburner expert but that one was needed. After all, he said, the furnace manufacturer did not make the burners but bought them and merely attached his label to them. Subsequently both the furnace manufacturer and the manufacturer of the burner indicated that they were selling equipment on a highly competitive basis that did not permit them to add to their costs by sending a field engineer to see these furnaces. Their equipment performed satisfactorily in other homes, and should do so on these jobs. Improper service work must be involved, they indicated, or improper fueloil.

After assembling facts related to all this, the heating engineer reported to the financier that in general the 300 oil heating plants were noisy, troublesome, and inefficient. The buyers of the houses would have to be dopes, he said, not to complain about them.

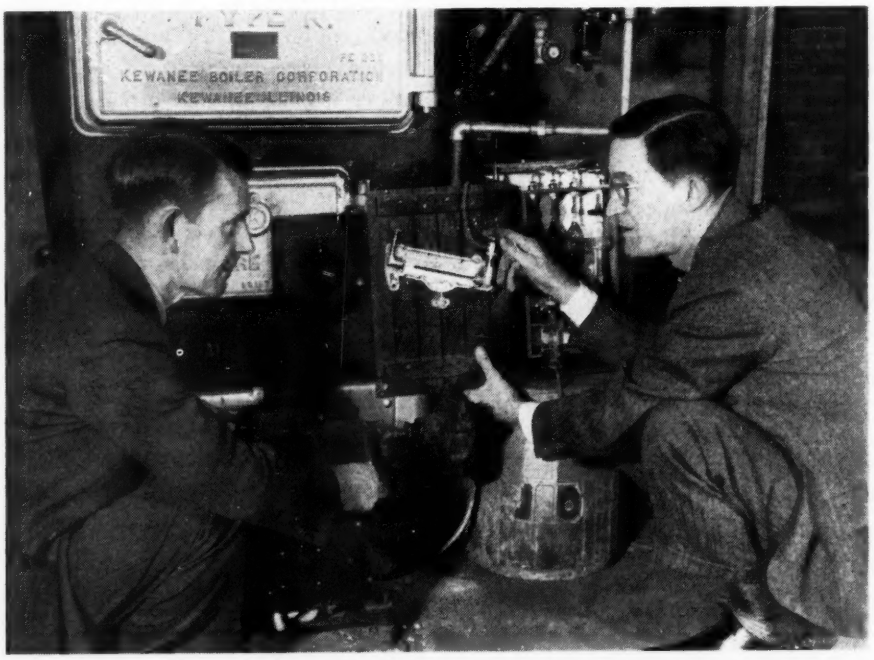
He told the financier, "There's just one chance to solve this problem quickly and satisfactorily. Get some dependable oil company interested in those homes. Find a local fueloil supplier anxious to clean up this situation because locally it's doing untold damage to the reputation of oil heating. On some fair basis, have that company fix up these jobs to start out, then service them as they should be serviced.

"If there's no such oil company in the locality, consider yourself licked. Then you can't arrive at a happy solution to your problem."

Fortunately between them the engineer and financier succeeded in finding an oil company owner who would take on the responsibility for these 300 oil heating plants.

"You've got to act as though you put in these systems," urged the heating engineer, "Act as though they're your installations and you love them!"

This wasn't easy for the oil company owner after he'd seen a few of the jobs. However, trying hard, he came up with



A fueloil company expert *can travel around with instruments too high falutin' and too fragile for service men to carry usually. Here's a combustion testing outfit that includes a stack thermometer, draft gage, and three-cell Orsat gas analyzer. By providing highly accurate and dependable figures concerning the percentages of carbon dioxide, oxygen, and carbon monoxide in the flue gases, such an analyzer gives special help for solving unusual combustion problems.*

a proposal like this. These installations had not been started up and tuned up properly, so each one needed a complete start-up and check-up now. Being a fueloil supplier, he did not like pressure burners firing less than 1.0 gph, he said. He'd try to offset that by installing on each job the highly effective oil line filter it needed. For the work of making a 15-point start-up and check-up after the fashion described in the January 1952 issue of FUELOIL & OIL HEAT, and including the oil filter and its installation, he would charge $11.60 per installation.

After making a job right in this way, and only after doing this, he'd take on responsibility for servicing the burner in the same fashion he serviced the burners he installed. That is, on the basis he provided dependable, efficient service for these burners after they were one-year old.

The engineer told the financier that this oil company owner's plan was the only way out of the oilburner headaches, and should be accepted.

It was accepted, on the basis that spending $11.60 to make a $10,000 to $12,000 home satisfactory to its buyer seemed reasonable, even though $3,480 is not inconsiderable for 300 homes.

That case of oilburner trouble had a happy ending which it would not have had without an oil company interested in burners. Dozens of cases similar to it can be cited. They all indicate that fueloil dealers should take an interest in their customers' oil heating problems; this works out best for the fueloil dealer, for the oilburner owner, and for the good of the oil heating industry in general.

Responsibility to the Customer

There's a certain executive of one of the largest oil companies who has made a study of burner servicing policies for many years. As he is an authority on the subject, he was asked to give his opinion on whether or not fueloil dealers should be interested in their customers' burners. Perhaps for reasons related to company policy, he stipulates that neither he nor his company can be named in this connection, but here are his words:

"Any fueloil supplier who does not arrange in one way or another to provide either regular or emergency oilburner service to his customers, renders the entire industry a disservice. The time must come when fueloil suppliers will recognize that their responsibilities do not end with the delivery of the product to the customer. They also have a responsibility for being sure that their product is used properly, so that the customer obtains the maximum value from it. This responsibility can not be shared with somebody picked at random by the customers."

Because R. F. Andler, president of Electrol Burner Manufacturing Co., Inc., is well known for his strenuous efforts in the direction of obtaining fair-priced and highly competent service for oilburner owners, he was asked for comments on fueloil companies taking an interest in burner servicing. He has this to say to fueloil dealers:

"Fueloil business follows fueloil service. When a service man of another oil company goes in and finds a dirty strainer and dirty nozzle, often he will say, 'If you used our oil, this wouldn't happen!' Sure enough, the customer will want to tie his heating service into one responsibility.

"Oilburner service can bring in extra profits—either on oil sales or a percentage of the oil sales.

"Do your servicing on a sensible basis that gives the customer the best results at the lowest cost. We have found many service companies that put on burner parts different from the original equipment at tremendous extra cost over that of original-style replacement parts obtained from the burner manufacturer. This does not help oil heating!

A smoke-checking instrument *as well as a CO_2 analyzer is needed to find out if a difficult oil can be burned cleaner and better through switching the air-handling parts of a gun burner. The work involved is better handled by a white-collar representative of an oil company than by a service man who necessarily works dirty-handed and who has little time and patience for research and development efforts.*

Service must be available

"We find many service companies making this mistake. Facing a particularly critical problem, they do not call upon the manufacturer for instructions that would be freely given. Nor do they have a library full of service books and parts catalogues which manufacturers would gladly supply without charge.

"Years ago we avoided mentioning service because of fear of scaring the customer about service charges. Now refrigerators, television sets, radios, mixers, circulators, etc. have changed that. Householders know that service is necessary for many things. Prove to the sales prospect and burner owner that the product you are selling is of top quality and that service will be available on a proper basis for years ahead, and give service at the proper reasonable rates, and your business throughout the neighborhood will increase."

Those words come from a burner manufacturer who, like many other burner manufacturers, is anxious to add to burner owners' satisfaction by helping solve usual and unusual service problems at lowest cost to the owners. That helps the oilburner business; and the oilburner business can not be helped without helping the fueloil business. Any oil company executive or owner wondering about whether or not to help out oil heating by taking an interest in burners should bear that in mind. There's a long-standing question about which came first, the chicken or the egg. But there's no question about this: You've got to have oilburners in your locality before you can build up a fueloil business. The more you help oilburners and oil heating, the more fueloil business you'll have.

Can We sell home Cooling?

The oilheating Dealer who organizes his Sales and Engineering will be best equipped

by

Bert Dunphy

"MAKE HASTE SLOWLY" appears to be the best advice that can be offered the oilheating dealer who is considering entering the residential cooling field. In making the decision to actively go after the sale of centrally-installed airconditioning, combined with a forced warm air heating system so that the same duct system can be used for distributing heated as well as cooled air, the dealer can well take heed of the caution that while now is the time to plan for it, he's going to do more business, make more money and have more satisfied customers if he plans intelligently to sell conservatively and honestly.

This is typified in the attitude of a number of dealers who have been approached on this subject. In particular, the Elliott-Lewis Corp., Delco-Heat distributors in Philadelphia, and Lewis Associates, Inc., General Electric outlet in Port Washington, Long Island, echo these sentiments and emphasize the sincerity of their beliefs by operating in just that way.

The Elliott-Lewis organization presents somewhat of a paradox by asserting that they actually are not yet in the business of selling centrally-installed residential cooling, despite the fact that since 1950 they have put in 50 such systems. The explanation, however, is plausible.

Elliott-Lewis was founded in 1905 by Frank R. Elliott and Thomas H. Lewis, Sr., as the Elliott-Lewis Electrical Co., Inc., selling electrical supplies and appliances. In October 1932 Lewis established the Elliott-Lewis Corp. as a Delco oilburner dealer and in 1934 the company added fueloil. During the time that Delco and Frigidaire operated as a single division, the company handled Frigidaire cooling equipment, and later took on York cooling equipment when the combined division was split-up.

Joseph Call, vice-president in charge of the Air Conditioning Department, points out that Elliott-Lewis since 1939 has been installing York commercial and industrial air conditioning in capacities up to 100 tons. Room coolers have been handled also, but practically all of them are sold at wholesale to sub-dealers. Actually, the company did not go after residential central cooling sales until 1950 when York announced its hermetically-sealed compressor unit in the smaller sizes. Since then the 50 units have been installed, but as Call explains it they were put in "by guess and by God," with no concentrated effort made to move the units.

Organizing for residential Sales

Next year, though, Call promises it will be different. Beginning now the company is organizing its sales force so that very shortly Elliott-Lewis will have full reason to believe that it is in the residential cooling business.

The sale of such units, Call maintains, requires a different approach from that which has proven successful in selling commercial cooling. Here, where the owner of the restaurant or other retail store can be shown that installation of cooling equipment is going to make it more inviting for the customer to come into his establishment, with resultant increased business, the cost of the equipment and its operation does not present much of an obstacle. Again, in offices and factories cooling installations can be sold on the basis not only of comfort in the warm months, but also increased working efficiency.

The homeowner, on the other hand, is purchasing Summer comfort without the monetary return that accrues to the purchaser of a commercial installation. The different approach, therefore, to the homeowner requires a salesman who is capable of persuasively overcoming any objection that may be raised to the initial cost of equipment and the cost of operating it.

It is on this basis that Elliott-Lewis is thinking of re-aligning its already well-established cooling department. The department is made up of a personnel of about 65, including 22 service men, 11 who work on maintenance contracts aside from regular service, 10 installation men, 11 salesmen, 5 engineering people and 2 supervisors. In the Camden, N. J. sales and service branch, across the Delaware River from Philadelphia, 2 salesmen, 8 service and installation men and 2 office help are employed.

Cooling units that Elliott-Lewis has installed in residences in combination with forced warm air heating systems have ranged from 1½ to 5 tons capacity, with 2 to 2½ tons the average size. For these last sizes the purchase price runs from $1200 to $1300, including some duct work, wiring and plumbing connections.

Call is frank in his prediction that, while residential cooling systems are going to become increasingly popular and be sold in more volume as time goes on, he believes the idea that the bonanza is here is premature. He thinks it will come, but only after a period of aggressive selling and plain hard work. And naturally, the larger volume of sales will continue in commercial-industrial applications.

Selling is most needed

J. C. Campbell, general manager of Elliott-Lewis, seconds the motion in this regard with the assertion that the only thing the industry is short of is salesmanship. Specifically about cooling installations, he leans to the zoned system, because he feels that cooling of an entire house all the time is unnecessary. With zoning, he explains, the living rooms of the home can be cooled during the day and early evening, the bedrooms during the night. This requires manual change-over in most cases, he concedes, but the advantage to the homeowner lies in the installation of smaller sized units, with

Aerial view *of Lewis Coal & Oil Co., Inc., Port Washington, N. Y. The administration building is centered in the foreground, with loading racks, tank wagon yard and storage tanks in the rear. Oil is piped from barges directly into the tanks from the dockside facilities shown in the foreground.*

consequent savings in the initial investment and operating costs.

Elliott-Lewis is one of the largest retailers of oilheating equipment and fueloil in the Philadelphia area, is Delco-Heat's largest outlet and, since it added York air conditioning to its line, has been a leader in sales of that equipment. The company has 35 dealer accounts on both heating and cooling equipment; it wholesales major appliances, sells storm windows at wholesale and retail and also home insulation and Protexa-Wall, plastic coating exterior finish for homes and buildings.

Over-all it does a $5 million annual business, including more than 8 million gallons of fueloil, operating within a 15 mile radius of Philadelphia. The company services 5,000 residential, commercial and industrial fueloil accounts, has 2,500 oilburner service customers on annual contract to include a vacuum cleaning, all service and burner parts and takes care of 10,000 other spot oilburner service accounts.

Lewis Associates, Port Washington, operating on a comparatively more modest scale, concentrates no less on insuring that the purchaser of summer cooling is well taken care of. This too is a long-established organization, the Lewis Coal & Oil Co., the parent company, having been founded 50 years ago by George H. and Frank L. Lewis. Their entrance into the fuel business was accomplished in a rather unusual manner.

The brothers harvested and marketed shellfish taken from Manhasset Bay on Long Island until a law condemned the waters and made it illegal to take shellfish from the area. They had been in the habit of taking their catch by boat to New York's Wallabout Market and on the return trip bringing with them small quantities of coal for their own use. Friends repeatedly asked them to bring coal for them, so when their clam and oyster business was no more, they turned the boat into a coal barge and with their first 10-ton deckload of coal hauled from New Jersey were in business to stay.

Oilburners and fueloil were added later and in 1930 the company was moved to the large, modern building it occupies today on Shore Road in Port Washington. More than 100 people are employed and storage for 7,250,000 gals. of fueloil is maintained for both retail and wholesale sales.

Three companies are operated. The Lewis Transportation Corp. transports fueloil, gasoline and coal in company-owned tugs and barges; Lewis Coal and Oil Co., Inc., runs the storage plant—the largest on the North Shore of Long Island—and delivers fueloil, as well as delivering coal and gasoline; Lewis Associates, Inc. is the sales organization, handling oilburners, oilburner service, fueloil, coal and air conditioning equipment. The latter company sells General Electric oilheating equipment and cooling units.

The cooling units since last year have been installed in 15 homes, in combination with forced warm air heating systems and tied in with the existing ductwork. Average size installed has been the 3 ton unit, at a cost of about $2,200 for a completely automatic system. Operating costs are estimated at from $40 to $50 annually for water and all the homes where installations have been made buy electricity at the rate of 1½¢ a kilowatt hour.

"Gold Coast" Customers

William G. Kane, general manager of Lewis Associates, explains the company is in a slightly different position from many other dealers. Homes on the North Shore are larger and more sumptuous than average, hence the reference to the territory as the "Gold Coast." Here the cost of equipment and cost of operation is not the factor that it is in other places. Homeowners, generally qualifying for inclusion in the "well-to-do" class, enjoy above-average incomes and it usually is enough to interest them in cooling comfort without having the issue of cost raised.

The few times it has come up Kane has used the story attributed to the late J. Pierpont Morgan who, when a young man spoke to him and expressed dismay at the thought of what it was going to cost him to operate a newly-purchased yacht, admonished him that if he had to think about cost, he was not ready to own a yacht.

So happily, Lewis' customers for summer cooling have been more inter-

ested in the comfort they could purchase than in its cost.

Sales promotion to cooling prospects has been used consistently with direct mail and newspaper advertising, but direct results to it have never approached the favorable reception a salesman's story receives during or just after a spell of hot, humid weather.

Lewis Associates maintains a staff of 17 service and installation men, a service and installation manager and assistant. There are 5 salesmen, 2 on fuel-oil and 3 on heating and cooling.

When salesmen are hired, the first 3 months of employment are spent as a member of an actual installation crew, learning first about the equipment and its application, but just as important, Kane says, they're finding out what installation and service men gripe about—particularly when they are caught in the middle of a salesman's blunder or overselling—and learn to avoid similar mistakes.

The company maintains its own truck repair shops and performs repair work on General Electric parts in its own machine shop. In addition, regular service schools are conducted on General Electric equipment, using lectures, slides and demonstrations on equipment that is in operation. The last series ran for 10 weeks, 1 night a week, 2 hours each night, with the instruction arranged so that it is educational to new men and serves as a refresher course for the experienced men. Kane explained also that the company almost prefers to hire both service men and salesmen who have no knowledge of oilheating and teach them fundamentals in their own way from the actual experience they get.

At present there is one man who performs cooling service. He's an expert on that subject, and, outside of the warm months, he is assigned to an oilburner installation or service crew so that he gradually is becoming a combination heating-cooling service man. Kane expects that when additional cooling service men are needed because of increased sales, members of the oilburner service crews, who assist on cooling service when more than one man is needed, will be qualified to take on that additional responsibility.

Kane foresees excellent prospects for cooling installations in residences. For now, though, the company is operating on the theory that their prime prospects, those who can easily afford the installation, are right in their own backyard. In time, with equipment refinements, increasing demand and mass production, the cost surely will come down to the point where the market will be vastly broadened. He predicts that shortly nearly every manufacturer will be offering a combined heating and cooling package that can be installed as a single unit with a minimum of installation detail required.

A typical *combination of a General Electric furnace unit and a cooling unit for residential installation. Note that both are tied in to the same duct distribution system.*

Both Call at Elliott-Lewis and Kane at Lewis Associates were quite emphatic in declaring that the greatest danger they saw for residential cooling sales was overselling the product or making installations where they could not perform well. In other words, conservative and honest selling.

In amplification of that, both explained that the small dealer is somewhat handicapped in getting into the sale of centrally-installed residential cooling equipment, unless he has engineering knowledge of refrigeration or can afford to hire the talent he needs along these lines.

Many times when a customer really wants home cooling, the job can be sold easily, but if such deficiencies exist, as improperly placed distribution grilles, poorly designed or undersized duct work and are not corrected, he's going to complain bitterly when he finds he can't get the performance he thought he was buying. In such cases, the customer must be told the facts of life about how such things will retard the efficiency of his cooling system.

Lewis Associates, from experience gained in making a great many oilburner conversion installations, often in coal systems poorly designed for oilburning, makes a part of each sales contract a letter to the customer pointing out deficiencies that exist and should be corrected. They follow the same procedure with cooling sales, by explaining, where necessary, that certain revisions or improvements are needed in the existing system to obtain optimum performance. Then, if the customer declines to have them made, he is told in writing that, while he's going to get satisfaction from the installation, performance will be hindered to a certain degree.

No attempt is being made here to simplify what is actually a complex procedure—the oilheating dealer adding residential cooling to his equipment line. But, the thinking dealer can well evaluate the efficient equipment available today, the increasing acceptance and demand for cooling and the opportunity it presents to him to increase his business. Perhaps these brief descriptions of the calculated, comprehensive planning that others are doing and the confidence with which they regard the potential market for this equipment, will enable him to make up his mind to cash in on the profits.

Sell more baseboard Radiation

With lower Temperatures you get cleaner, steadier Heating

by

Lionel L. Jacobs*

IN RECENT YEARS improvements in the heating of homes have made tremendous strides as a natural result of the trend toward automatic heating. Automatic heating itself introduced a basic change far more fundamental than the mere saving of labor—the idea on which it gained public acceptance.

For long automatic heating had to struggle along handicapped by its necessary adaptation to an existing design of heating plant; a design that had been developed for continuous firing; a design in which, with only manual control, great emphasis was placed on a minimum amount of attention from the home owner. First came steam, the natural adaptation of industrial heating to the home, then vapor as the next step in reducing the need for personal attention, and finally hot water, with its long heating periods—all forms subject to under-runs and over-runs that were accepted as inherent and which the manufacturer of heating equipment attempted to minimize with large radiation, large mains, large volumes of water.

It is questionable, notwithstanding their more than average quota of imagination and foresight, if Lewis Scott in St. Louis, and Morgan Hammers in Chicago had any conception of the final outcome, when, at about the same time, they used oil burners from steam automobiles they were developing, to provide heat during a coal strike.

And then came controls to make these burners safe and automatic, with still the problems of immense cast iron boilers and radiation, and enormous mains and gallons of water to heat and cool at the "flick of a switch."

The circulator followed, to make provision of Domestic Hot Water possible, and soon the discovery that this same circulator simplified the problem of heat distribution.

Smaller tube radiation—Convectors—smaller piping quickly followed, and then came the forced hot water system with one relatively small main.

The reduced volume of water in the system called for smaller boilers, faster heating boilers, and the natural trend to steel boilers in spite of the warnings of the cast iron boys who failed to realize in their "short life" propaganda that modern tight hot water systems require so little "make-up water" that the kind of water available means nothing to the life of the boiler.

With the coming of the small, fast-heating steel boiler, holding a minimum amount of water, the stage was set for a most important development in home heating—Baseboard Radiation.

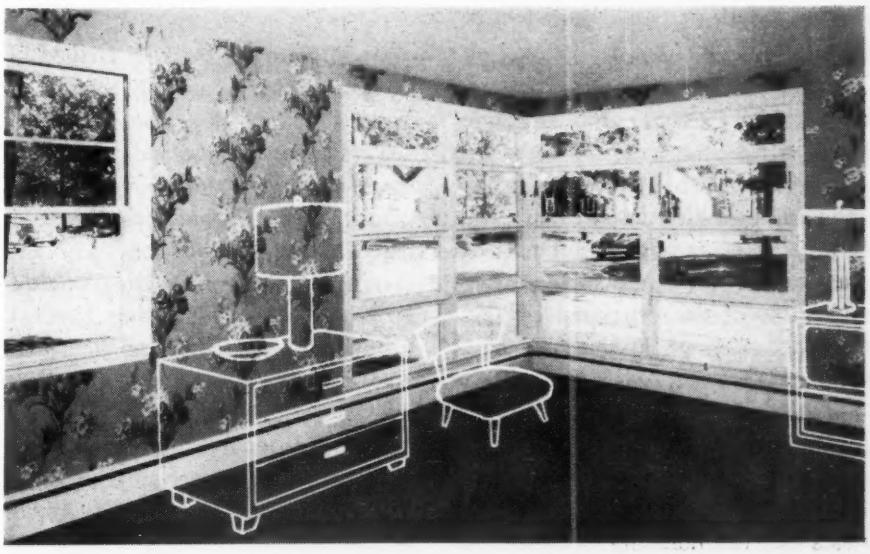
Baseboard Radiation is rapidly supplanting other forms, and the reasons given in explanation are remarkably convincing. Here are some of them—

1. It is highly responsive to automatic control. A six room home may have less than thirty gallons of water in the entire system, with most of this water in the boiler. Very fast heating and equally fast cooling enable surprisingly close temperature control; or preferably, under some conditions, operation at lower temperatures for longer periods can be maintained without uncomfortable build up of temperature resulting. Its great flexibility is a new tool in the hands of the Heating Engineer.

2. The fact that it can be made to harmonize with all types of interior decoration, and does not interfere with the placing of furniture, make possible a distribution of heat unattainable with any other type of radiation. Its inconspicuousness is one of its most attractive features.

3. It is absolutely free of drafts. Located at the floor line, always the coldest area of a room, and running along an outside wall, the gentle current of warm air rising from the baseboard acts as a curtain against loss of heat to the outside, and the fact that the outer margins of the floor are heated ensures warm floors throughout, and floors entirely free of drafts.

4. No equipment is required to maintain the circulation of air, which takes place naturally and equally from every



A completed *baseboard radiation installation, illustrating how it can be made to harmonize with interior decoration and not interfere with the placement of furniture. Other features of baseboard radiation are its responsiveness to automatic control, its freedom from drafts, natural and positive circulation of heated air, cleanliness, ease of servicing and less costly in both time and materials.*

*Lionel L. Jacobs & Sons, Wayne, Pa.

inch of heating element spread along the wall. This natural circulation and the distribution illustrate the advantages over Convectors, which are localized, and must operate at higher temperatures to obtain an equal heat input, and consequently with more rapid air circulation. It is also superior to warm air Perimeter Heating to the extent that any form of warm air heating designed for horizontal projection must utilize a blower, and relatively higher speed air movement, and give unequal distribution of air and heat for the length of the perimeter.

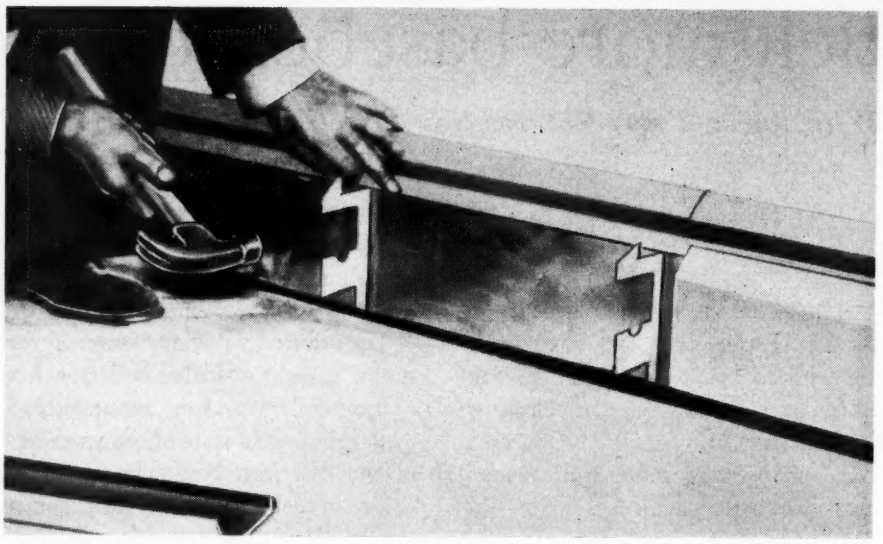
5. It is clean. In any usual home location, the air normally carries quantities of dust. When this dust is picked up by high speed, high temperature air circulation and banged against a nearby cooler surface, it is deposited to form the typical dirty area around a radiator or grille. With correctly designed and installed baseboard radiation, the mild natural air movement, the relatively low air temperatures, and the greatly increased distribution of the heating element, eliminate these causes of smudged and dirty walls. The radiation itself, if properly designed, is readily cleaned by running the small tool of a vacuum cleaner along the under edge.

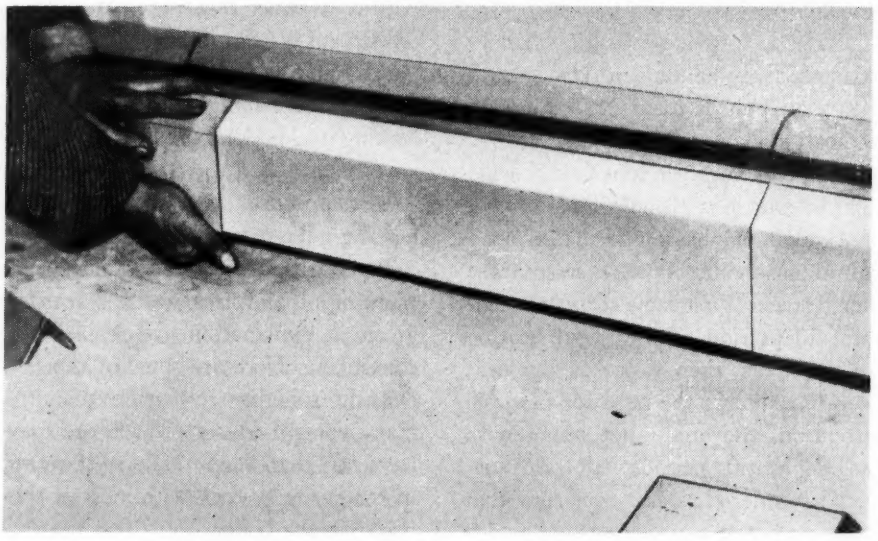
6. It is readily get-at-able for alterations, repairs or cleaning. Well designed Baseboard Radiation has easily removable and replaceable front covers that permit all parts of the system to be serviced.

7. It is much less costly in both time and material. Except in unusually large installations, practically all basement piping is eliminated by the use of Series Loop (fin-on-main) installations. The saving in pipe and fittings, number of joints, and often considerable cutting and fitting of the structure, averages more than 50% of the cost for a conventional system.

No heat Loss from Mains

Moreover, heat loss from mains and risers is almost entirely eliminated, losses that are normally calculated at from 15 to 25% of the total heating load. The elimination of these losses, with all the heat going into the rooms where it is needed, means important savings in fuel costs.





Two steps *in the installation of baseboard radiation. To be acceptable such jobs must be neat, workmanlike and sturdy. From the time the heat loss for each room is figured, the oilheating dealer installing baseboard radiation must realize the importance of accurate calculations and the proper layout of radiation.*

Good as is this modern method of heating, there are pit-falls for the installer. Some of these are—

1. Noise. Expansion and contraction noises can be very disturbing to a home owner. Most such noises can be eliminated or better, avoided by good and careful installation. Avoiding long unbroken runs—making sure that all openings in partitions and floors are amply large—making sure that pipe lengths are correct, a piece of tubing ¼" too long or too short, forced into place, can be a greater noise producer than a kid with a drum. Some designs of Baseboard Radiation are more prone to make tinny noises. Make sure the radiation used is of sturdy construction, and that fins do not touch covers.

Avoid short on and long off periods. If high boiler temperatures are required for sufficient domestic hot water, install a By-pass between the flow and return, with a valve to control the amount of return water, so that lower temperatures can be carried in the radiation. Such a By-pass should be teed in between the circulator and the boiler in the return and after the Flow Control on the flow.

Air is a prolific source of noise, in addition to obstructing proper circulation. Correct filling of the system to avoid air trapping is important. There should be a bleed with stop and waste above the valve in the return on each circuit. In filling, the circuit must be filled in one direction, which can be done by closing the valve on the return and opening the stop and waste on the bleed. When a steady stream of water comes out of the bleed, the

valve on the return can be opened and the stop and waste closed. Recently we have been testing a device made in Baltimore that consists of an expansion tank and air eliminator. It goes in the flow above the flow check. So far it looks like the answer to a maiden's prayer, as it picks up the air, released as the water is heated and prevents it going back into the system, and so eliminates the need for any air vents.

2. Smudging of walls. Some makes of baseboard radiation are almost impossible to apply to walls that are at all wavy without small openings occurring behind the backing, up which air circulates at more or less high speed, causing smudging of walls. A design where the molding covers the joint between the plaster and the plaster guard, usually avoids this trouble.

Installation Problems

3. Installation problems. If baseboard radiation is to obtain the broad acceptance that it merits, jobs MUST be neat and workmanlike and sturdy. There is much difference in the weight of materials, in the design of inside and outside corners, ends and splicers in different makes; also some makes require cutting and fitting on the job, while others require practically none. These are important considerations in choosing a type to install.

4. Heat output. There is considerable variation in the heat output per lineal foot between different makes. In the modern small house, low output per foot can pose an almost insuperable problem in bathrooms and kitchens. Moreover, low output means more feet and more dollars for material and labor.

There would seem to be no justification for two-pipe radiation, which increases installation costs and develops air difficulties.

In closing, it seems wise to stress that those who use baseboard radiation for the first time should realize the importance of correct heat loss calculations for each room, and the proper layout of the radiation, if satisfactory performance and minimum cost to the installer are to be attained. Here again there is considerable variation by different manufacturers, in the type and amount of help provided the installer in the field.

Hedlund sees 17% Increase in East Coast Consumption

SPEAKING before the National Petroleum Council on July 29, Charles J. Hedlund, director, Program Div., Petroleum Administration for Defense, states that PAD studies have indicated "that distillate production on the Gulf and East Coasts must be maintained for the next nine months at a level 18% above last year's production, to meet the requirements of a normally cold winter. To do this the industry must maintain record crude runs and record distillate yields."

Hedlund said the estimates were based on the assumption that oilburner sales this year would be about the same as last year, meaning an increase of about 8% in the number of burners in use. However, preparing for a normally cold winter, in contrast to the last two which were nearly 10% warmer than normal, heating oil consumption would increase about 10% without the installation of any new burners. "Overall," he concluded, "the heating oil requirements for new and existing burners on the East Coast are estimated to be up by about 17% next winter."

Sharp gains in diesel fuel consumption and increased military diesel requirements are contributing factors to the tight supply picture, he continued, and the recent refinery strike interfered with normal off-season build-up of distillate stocks.

Hedlund used a series of charts in his talk to demonstrate the estimated average demand of 1,131,000 B/D next winter in Districts I and III, representing a 17% gain over last winter, and requiring increases in distillate production on the Gulf and East Coasts totaling 18% over the next nine months.

This leaves no room for supply interruptions, he said, and if distillate stocks follow the pattern of the past two years, they will be built up by the end of the third quarter to a level of 60 million barrels in District I and III, slightly higher than last year. By the end of the winter, though, they would be at a point lower than last year. This, "is a bare minimum program, and there may be difficulty in supplying a demand 17% higher from industry stocks no greater than last year. But it is a program on which we can scrape by."

Refining is the key to the puzzle this year and it is likely that crude oil will be available to cover the refining operations forecast in PAD's study. Transportation, Hedlund stated, is not quite so clear. It will probably be necessary to complete at least one of the new pipelines out of West Texas to assure adequate supplies of crude oil and tankers, while posing problems in the winter months, will not be as tight as last year.

Summarizing by pointing out that this winter it seems likely the industry will have no upward flexibility of runs, none on yields and none on stocks, Hedlund explained, "We are not crying out in alarm about an oil shortage this winter. But we do believe it is up to each refiner in the critical Gulf/East Coast area to exert all possible effort to maximize distillate production, and up to every jobber and marketer to buy early and fill up his storage. Only prompt and decisive action by the industry in these two directions will assure the coverage of the peak heating oil requirements of the coming winter on the East Coast."

Automatic Heat becomes Sinclair Subsidiary

THE BUSINESS of Automatic Heat, Inc., Philadelphia, distributor for Timken Silent Automatic, has been purchased by Sinclair Refining Co. J. A. MacDougall, Automatic Heat president, will continue to head the business as manager of the Automatic Heat Division of Sinclair Refining Co.

MacDougall stated there were to be no changes in policy or personnel and that by consolidating the business the new Division will be supplying some 20,000 active service accounts. "Our customers are assured," he continued, "of a reliable source of heating oil supply through the Sinclair products pipeline system direct from its Marcus Hook refinery to terminal facilities in the heart of Philadelphia. We are advising all our customers that there is to be no change in the Timken Silent Automatic Heat distributors relationship, in service contracts, or in rates."

Oil jobbing Versatility

Carnes of Clinton merchandises everything from Lubes to Ducts

IT IS ALWAYS interesting, but not always realistic, to classify a company by its background. Carnes Oil Co., of Clinton, Iowa, is an example.

Associates of I. H. ("Ike") Carnes would think of him as a more or less conventional oil jobber. His group activities are with jobbers, for he was president of the Iowa Independent Oil Jobbers Assn. for two terms, 1948 and 49. He regularly attends API meetings and has since its inception been an ardent devotee of the National Oil Jobbers Council.

He has no association with the oilheating industry as such, yet as a matter of fact his principal business is in fueloil and oilheating equipment . . . at heart he's an oilheating man. Considering that oilheating has had its greatest growth since the war in the Midwest states, a situation like this is understandable while not often recognized.

It was in 1940 that Ike Carnes started in the oil business at Clinton, population 30,000 on the west bank of the Mississippi. That first year he sold 58,000 gallons of heating oil and just a smidge of gasoline and lube oils. This year, 12 years later, his petroleum sales will be just at three million gallons. This volume is divided almost equally between No. 2 heating oil, gasoline and residual fuels. He is a Texaco marketer.

Gleaning a Market

The significant point that keeps cropping up in a day's visit with Carnes Oil Co. is the way the group has diversified its sales in order to get a larger dollar volume out of a small city.

First he has a good looking bulk plant with 160,000 gallons capacity. He brings his oil in his own transports from Texaco's marine terminal at Bettendorf, some 30 miles south. One of the transport trailers is also used for hauling residual oils direct from the terminal to the customer's tank. Clinton has some large factories and a handful of these account for the million gallons of heavy oil sold. To a couple of these plants the oil comes direct by tank car and Carnes takes a brokerage.

The 600 light oil customers require two trucks, and of course most of the gasoline deliveries are direct by transport to the service stations.

This year new heating oil accounts are coming in at an accelerated rate, almost one a day on the average. Carnes has stepped up his sales activity on heating, and he has a gimmick for competitive oil customers. His men explain to the oil prospect that he can supply good burner service along with his oil, and to get them started he offers a free clean-up and tune-up the first year, to get everything shipshape in starting the account.

For domestic burner sales he uses Century and for heavy oil jobs he sells Ray. Last year the company sold 50 installations but the pace has now been stepped up. At the time of the visit in June there were more than 100 jobs on the books awaiting installation.

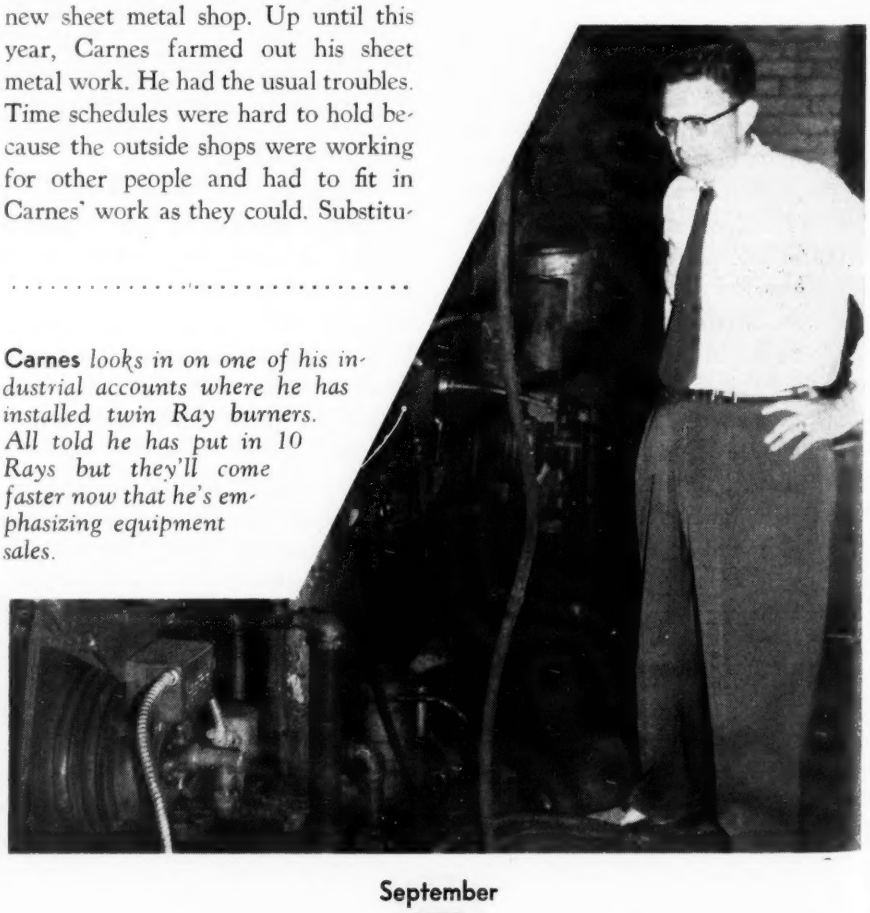
One reason for this speed-up is the new sheet metal shop. Up until this year, Carnes farmed out his sheet metal work. He had the usual troubles. Time schedules were hard to hold because the outside shops were working for other people and had to fit in Carnes' work as they could. Substitutions were sometimes necessary because the shop had been through a heavy run on the needed items.

It wasn't possible to support a sheet metal shop of his own on the volume he was doing, so the choice was simple . . . worry along with outside shops or put on more sales effort and get enough work to support his own. He chose to have his own shop and today it's full of work.

The payoff is that this greater activity for equipment sales is bringing new oil customers faster than before, and oil customers have a high long-range value.

Typical of Carnes' incidental activities, he blends and packages his own lubricating oils and greases for the industrial and farm trade. He had to study and learn a lot about lubrication of mass production machinery, but it's a strong profit line and has repaid the effort.

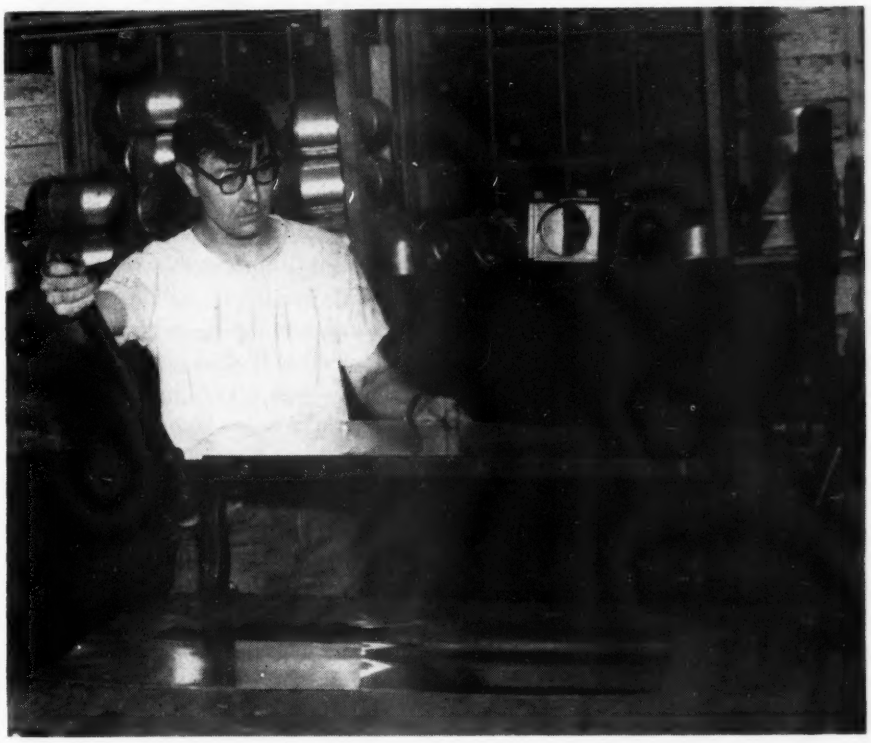
Carnes is a consistent advertiser in his community. Costs are modest in a



Carnes *looks in on one of his industrial accounts where he has installed twin Ray burners. All told he has put in 10 Rays but they'll come faster now that he's emphasizing equipment sales.*

Sheet metal shop *just opened this year has been the cause of an important increase in oilheating installations. He had to have more burner work if he was to support his own metal shop, so he built the shop, then pushed for sales.*

Ralph Youll, *foreman of the new sheet metal shop, has his hands full with more than 100 home heating jobs on the "tote" board at the time of the June visit.*



town that size. There is a two minute radio spot every evening of the year, costs only three dollars a day. Carnes keeps the copy alive with local flavor—he has lots of imagination. Then each Saturday he has a good ad on the home building page of the local newspaper. Again, there's a local "Shoppers News" that is distributed free each week to every home in town and he uses space in it every issue. The total advertising outlay is only $3,000 a year but that accomplishes a lot in a market of that size.

Meeting Carnes at a convention session, he stands out even in a large group, with a particularly friendly manner and an avid interest in everything going on. His notebook and pencil are tireless. A great many of the country's traditional oil jobbers could have much better going if they had the imagination and courage to step out and actually cover their markets with Carnes' versatility.

Government Orders on Steel and controlled Materials

DIRECTION 3 to NPA Order M-6A has been issued, effective July 28, covering supplemental shipments by producers and limiting distributors' deliveries because of the steel strike. It required certain forms and shapes in possession of distributors to be shipped only on defense orders through the close of business on August 7 and increased the quantities of steel required to be shipped by producers to distributors under certain limitations.

On shipments to distributors during September, October and November, 1952 producers are obliged to accept orders up to a minimum of not less than 120% of the base tonnage of each distributor customer, with the provision that the producer can cancel such orders if they exceed 50% of his planned production for that month.

From the effective date of the direction through November 29, no steel distributor shall be required to deliver to any one customer in any week more than 4,000 lbs. of any item of carbon steel, more than 2,500 lbs. of any item of alloy steel, more than 1,000 lbs. of any item of stainless steel sheet, more than 500 lbs. of any item of stainless bars and plates and any item of stainless tubing or pipe in quantities of more than 500 lbs. or ft., whichever is less. And, no distributor is required to deliver to any one customer in any one week an aggregate of more than 20,000 lbs. or more unless the deliveries include 10 or more different items.

Third and fourth quarter authorized controlled material orders are covered in Direction 1 to CMP Reg. 1, effective July 29. The direction permits placement of certain third and fourth quarter 1952 authorized controlled material orders even though they call for delivery after the end of such quarters. Authorized controlled material orders for steel properly placed with the quarterly identification of 3Q52, or orders placed pursuant to self-authorization or quota may call for delivery up to November 30 and fourth quarter orders, identified as 4Q52, may call for delivery any time from October 1, 1952 to February 28, 1953. The orders, however, must be filled in proper sequence, that is third quarter orders before fourth orders.

Amendment 1 to CMP Reg. 2 reduces to a 30-day supply the inventories that users of steel may maintain. The amendment, applying to any item of steel listed on Schedule I of CMP Regulation No. 1, establishes the 30-day period from September 1 to December 31, 1952, after which inventories can again be on a 45-day basis.

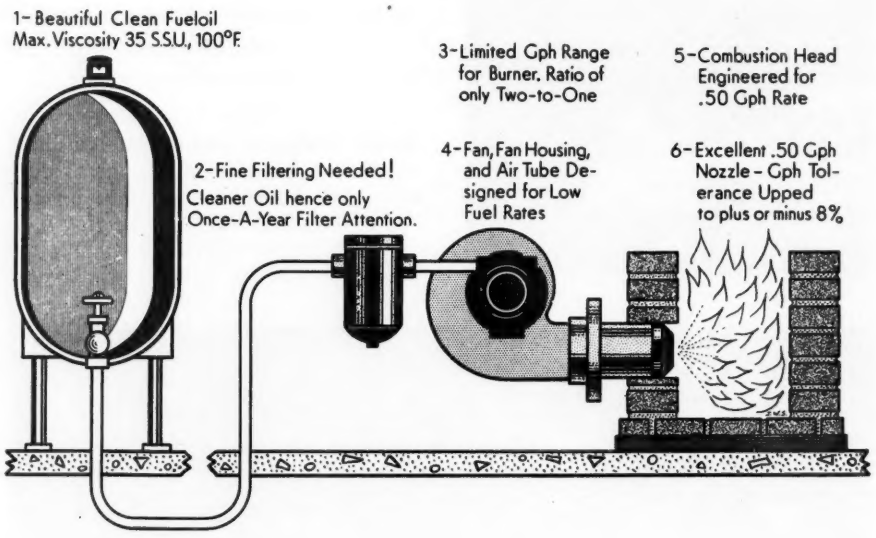
Half-gallon Burners are practical

Essentials are proper Nozzle, correct oil Viscosity, small mesh Filters, good burner Design

by

Eugene O. Olson*

Needed for Success at .50 Gph



ARE HIGH-PRESSURE OILBURNERS firing half-gallon per hour practical? This question has been asked by a number of people in various ways. Mostly it is directed at the suitability of using nozzles in that flow rate, and that is the side of it that we want to discuss here. The question does not always concern itself with half-gallon per hour nozzles but also with nozzles approaching half-gallon per hour, such as .75 gph and .65 gph. It is asked by manufacturers of burners, by oil people, and by others interested in the oilburner business, and I would say it is a very logical one.

We would like to submit an affirmative answer. It seems to me that the answer to the question is "Yes, if you treat them like half-gallon nozzles." Let me tell you what I mean.

Some of us remember the time in the oilburner business when a 1.35 gph nozzle was considered a small one. At that time No. 3 fueloil was permitted by the commercial standards to have a viscosity of 55 S.S.U. at 100° F. As the trend in burner sizes went down below 1.35 gph it became necessary to revise the fueloil specifications in the interest of good performance in a customer's basement. The maximum viscosity for No. 3 was reduced to 45 S.S.U. (CS12-40) and the last move (CS12-48) was to eliminate No. 3 and to set a maximum allowable viscosity for No. 2 fueloil at 40 S.S.U. at 100°.

That maximum limitation of 40 S.S.U. does not mean that oil must be held at 40 S.S.U., but we find more and more cases today of oil being held at the maximum or near it and in a few cases we have found that the viscosity has been permitted to go above the specified limit. In addition to viscosities near the maximum limit allowable, we find oil very high in sludge and sediment and in some cases gum and tar. These oils properly handled are not too bad for burners above 1.00 gph, but they make the going pretty rough for burners under 1.00 gph and especially so at .50 gph.

*Chief Engineer, Delavan Mfg. Co., Des Moines, Iowa.

Need for adequate filter

Another condition which makes it a little rough to use .50 gph nozzles is inadequate filtering for those flows. Many of the line filters on the market today were designed for nozzles in the range of 1.35 gph and up and they do a good job on the small capacity burners. There are filters on the market which can do a creditable job of filtering for the fractional gallonage burners, but they are not generally sold because the demand for the coarser filters has become habit on the part of the people who buy them. In other words, our thinking has in some cases become conditioned by the larger flow rates and we have not as yet gotten around to make the change which is necessary if we are going to satisfactorily use lower flow rates.

The use of fractional gallonage nozzles is further made difficult by the fact that in many cases attempts have been made to use .65 gph and .75 gph nozzles in burners which were actually designed to handle 2.0 to 3.0 gph with good efficiency. More and more oilburner manufacturers are designing for the fractional gallonage nozzles and are coming up with some very good results. It does not seem reasonable, however, to try to use a .65 gph nozzle in a burner with a top firing rate of say 3.00 gph without making some radical change in the air handling parts.

How then would we recommend treating fractional gallonage nozzles in order to get proper performance from them?

On the subject of the fuel we might make a comparison between your oilburner and your automobile. You wouldn't consider putting kerosene in the fuel tank of your automobile or even your outboard motor. The reason is obvious. The motor in either case is simply not designed to burn kerosene. In the case of .50 gph nozzles the liquid passages are very small and it is not practical to use 40 S.S.U. oil in them. The amount of liquid being handled is very small and the percentage of the total energy available in the swirl chamber of the nozzle which is absorbed by the friction in the oil itself is quite high. The job can be done and is being done by using slightly higher oil pressure at the nozzle to make up that energy loss. However, I would suggest that if we are to satisfactorily use .50 gph and .65 gph nozzles we

should think in terms of a maximum viscosity at 100° F. of 35 S.S.U. Certainly this is not too much to ask in the way of fuel for the most important appliance which you have in your home. If there is an increase in cost per gallon for this type of fuel, it will be more than offset by the decrease in the amount of service required to keep the burner going, not to mention the inconvenience of being without heat at some time or other during the heating season. Actually if the cost per gallon were one cent above that for a standard No. 2 fueloil, the total cost for fuel during the heating season would be increased by a matter of six or seven dollars or the price of one service call.

Foreign Matter is a Factor

The amount of foreign matter, such as sediment, sludge and tars in the oil, is important, too, in these small nozzles. The specification in CS12-48 showing permissible "water and sediment" of 0.10% does not tell the whole story. Some oils commonly sold today exhibit a very pronounced tendency to form sludge and varnish deposits in the customer's tank and burner. This sludge, along with some sticky, gummy substances in the oil, make the going rough for small size burners. Some refiners turn out a beautiful clean No. 2 fueloil and it would be a good thing if all of them would.

In the matter of filters, we can take our lessons from the diesel engine people. The manufacturers of diesel engines would not even consider the use of a filter of the density normally used on a domestic oilburner. In the standard tests which they have set up to determine the adequacy of the fueloil filters for diesel engines they find that the standard filters commonly used on oilburners are entirely unsatisfactory and they find it necessary to use filters which are considerably finer. The reason for using the finer filters in their case is that it is necessary to take that precaution to keep their nozzles clean.

These extra precautions are necessary also on fractional gallonage nozzles for oilburners particularly on .50 and .65 gph. Since it is possible to buy finer filters, it seems that it is mainly a matter of educating the people who use them to buy the correct filter to fit the job. The increase in cost for adequate filtering is probably not more than a matter of a few cents and certainly that expenditure will result in service savings of some importance.

It has been argued that the use of a filter finer than normally used will result in more frequent clogging of the filters. If a decent grade of fuel is used, however, there is no reason why a finer filter should not last an entire heating season as well as a coarser filter on a lower grade of fuel. The lower firing rate will require retention of less total solids, and permit longer filter life. Actually, filter clogging indicates that the filter is performing its intended function. It prevents nozzle clogging and the gradual drop in efficiency resulting from gradual contamination of the nozzle.

In the matter of burner design there will no doubt be a number of different opinions regarding what needs to be done in order to adequately burn .50 gph. I think it is generally conceded that the fuel pumps and transformers as we know them today are satisfactory for this type of job.

Improvement on air handling Parts

In many cases there is a great deal of improvement which can be made on the air handling parts including the fan, the fan housing, the air tube, and the combustion head. The fans in current use on some oilburners must be throttled considerably in order to reduce the air flow as required for these low fuel rates. That means that the fan must operate at an unfavorable point on its pressure-volume curve. This tends to invite pulsating air delivery with the resultant unstable flames and low efficiencies. The design of the fan housing and the air tube also affects this, but it is not my purpose here to design an oilburner.

The design of the combustion head has been found to be probably the most important single item in properly handling these low firing rates. Enough work has been done on the subject of combustion heads to know that the job can be done. There are some excellent burners in the field, and we have seen .50 gph fired with very stable fires and acceptable CO_2 and smoke values. There seems to be some agreement among many design engineers on the desirable ratio of maximum to minimum firing rates for a burner to get these results. A ratio of approximately 2 to 1 has been found to be reasonable and some good work has been done between those limits. Some manufacturers use different combinations of air handling parts to achieve the same results.

Nozzle Service

From the standpoint of the nozzle manufacturers I think it would be safe to say that they would much prefer to make two gallon nozzles! The production of .50 gph nozzles imposes many problems on the nozzle manufacturer and one of the most important is the matter of keeping the nozzles clean so that they go out of the plant clean and in condition to be used. That job can be done with proper precautions and I would say that at the present time the problems confronting the nozzle manufacturer in that respect are not as great as those confronting the users of those nozzles. When the field conditions for properly using .50 gph nozzles are attained, I am sure that the manufacturers of nozzles will be in position to supply nozzles which will perform creditably.

Another problem of the nozzle manufacturer in connection with fractional gph nozzles is the matter of flow tolerance. The customary five percent variation from the nominal on 1.00 gph is .05 gph. On .50 gph, however, five percent is only .025 gph, or about six tablespoonfuls (my wife tells me) per hour. That isn't very much and it is difficult to maintain. Furthermore it takes some doing to accurately measure that flow, from a nozzle or any other device. While in the process of making suggestions I might suggest that a flow tolerance of plus or minus .04 gph would be satisfactory for most operations. The same goes for .65 gph and .75 gph nozzles. On .50 gph that would be plus or minus 8%. That sounds like a very wide tolerance but I have talked to several burner engineers who agree that it is reasonable.

There is one other aspect of the use of these low capacity nozzles which should be mentioned in passing. I refer to the servicing of the nozzles. It may

(*Please turn to page* 194)

No advertising Panacea, but . . .

cumulative Effectiveness of smaller, more frequent Advertisements shown in Milwaukee

by
Harold N. Mottram*

IT IS MY FIRM BELIEF that a good advertising man must be continually on the alert for new ideas—then when he gets one, it must be thought through very thoroughly, considered from every angle and then, if it still seems to click, give it a try on a modest scale.

In handling the advertising for the Wisconsin Oil-Heat Association for the past 17 years, we have tried many new and novel ideas and results seem to prove that most of them were right. We can't measure their results in actual oilburners sold by our members who handle equipment, or additional gallons of fueloil sold by those members who handle fueloil. But we can measure the results on the basis that oilheating has been, up through 1951, more than a 2 to 1 preference over other types of automatic fuel.

While natural gas gained 22,024 new customers during 1951, largely as a result of the tremendous impact that the advent of natural gas in this area made, and the new oil heat customers amounted to only 3,541, the coal dealers lost 19,582. Admittedly the natural gas customers were mostly in new homes construction. Today there are over 83,000 homes in this area heated with oil and about 56,000 homes heated with natural gas.

Oil now outsells Gas

Dealers who sell both oil and gas equipment, and advertise both, claim that oil is outselling gas nearly 10 to 1 right now. Some who installed gas heat are now converting to oil.

Continuous, constructive advertising is the only reason that oilheating has maintained the position that it has. We are sure that lack of advertising would have reversed the position that we now hold. Maybe we have not done too good a job, but only those who are familiar with the local situation and the tremendous impact that the advent of natural gas made in this market, will appreciate the real job that we have done.

This Spring we came up with an idea that was new as far as our past experiences were concerned. We decided to switch to smaller ads and more frequent insertions rather than the occasional or seasonal larger ads we had been using.

This switch was based primarily on our desire to reach many more readers with our rather limited advertising appropriation. Using basic circulation–readership estimates, we were out to reach the greatest number of readers per dollar expended. In round figures, it appeared that our large ads, published in one of Milwaukee's leading newspapers, with a circulation of around 300,000, would be seen by about 25% of its readers—or approximately 75,000 reader impressions daily.

Switching to smaller Ads

The smaller (1 column by 6 inch) ads appearing twice a week — on Wednesday and Sunday — because of their admittedly smaller pulling power might be seen and read by fewer people per issue . . . in our estimation about 10% of the total readership, or 30,000 daily reader impressions.

However, for the same amount of money spent to run one large ad, we scheduled eight of the smaller ads. The readership estimate of 30,000 per ad, thus multiplied by eight, would result in a total of 240,000 readers as compared with 75,000 readers for the larger ads. Even making allowances for some duplication of readers (and if the same reader saw the ad more than once that wouldn't be bad), this indicated definitely a greater coverage for each dollar spent.

In addition, we considered other aspects. Summertime readers are impatient readers. Therefore, a short, cryptic message had a greater chance of being read, and absorbed, than a larger ad that might not be thoroughly perused. Instead of telling the entire story of oilheating in one large ad, we broke the story down into short, one-point-at-a-time spots. Varying headings and layouts avoided the danger of having each ad look like the other. Six variations of layout and message were utilized. These ran twice each week for a period of three months, 24 insertions in all, with switches in the various layouts to avoid repeating the same ad twice in succession.

One Feature stressed at a Time

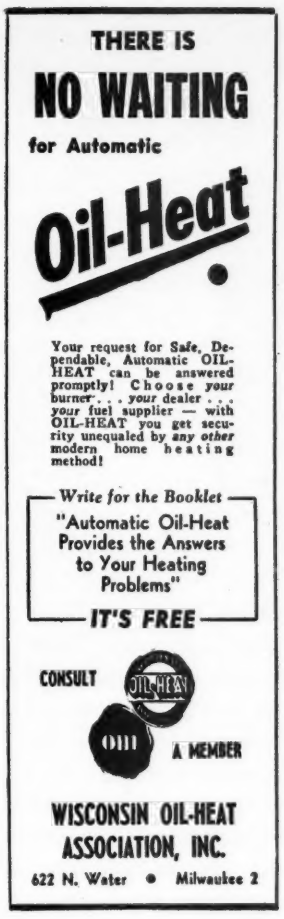
A large, cold ad admittedly packed greater "sledge-hammer" impact — similar to a boxer relying on a strong right hand that might do the job if properly timed. But someone once said, "water weareth away stone"—and the cumulative power of a pugilist's short and more numerous punches has often proven its worth. Ask Jack Dempsey what Gene Tunney's "light" punching accomplished.

That's what our association figured its smaller, more frequently seen ads would do—stress one point at a time, but build up to the final results by repetitious, interest-provoking short messages that would impress the reader and finally get the whole story across.

We had a supply of excellent circulars on hand which were used at the 1952 Home Show. This large brochure carried a complete list of the names and addresses of our membership and on the inside it gave 28 excellent reasons why oil heat is best. A small spot in each ad suggested that the reader write for this folder—"The Answers to Your Heating Problems." The results were excellent and every day brought in letters, post cards, and phone calls—and even personal calls at our association office—asking for copies of this folder.

No, the small ad is not necessarily an advertising panacea. However, it was worth trying, and, with a limited budget, any firm or association could well afford to try the experiment, just as we did.

*Executive Secretary, Wisconsin Oil-Heat Association, Inc.


THERE IS
NO WAITING
for Automatic
Oil-Heat
Your request for Safe, Dependable, Automatic OIL-HEAT can be answered promptly! Choose your burner . . . your dealer . . . your fuel supplier — with OIL-HEAT you get security unequaled by any other modern home heating method!
Write for the Booklet
"Automatic Oil-Heat Provides the Answers to Your Heating Problems"
IT'S FREE
CONSULT
A MEMBER
WISCONSIN OIL-HEAT ASSOCIATION, INC.
622 N. Water • Milwaukee 2

NO. 1 IN THE HEAT PARADE!
• automatic
OIL-HEAT
NO NEED TO WAIT—GET OIL-HEAT NOW!
Safe, dependable OIL-HEAT has no "priority" list—you are No. 1 when you select your burner, your dealer and your fuel supplier.
• SAFE
• CONVENIENT
• DEPENDABLE
• ECONOMICAL
Write for FREE booklet: "Automatic Oil-Heat Provides the Answer to Your Heating Problems."
CONSULT A MEMBER
WISCONSIN OIL-HEAT ASSOCIATION, INC.
622 N. Water St. • Milwaukee 2

Why Wait...
• automatic •
OIL-HEAT
CAN BE IN YOUR HOME WHEN YOU WANT IT!
Installation requests for safe, automatic OIL-HEAT can be filled NOW! Choose your burner . . . choose your fuel supplier . . . OIL-HEAT gives you security unequaled by any other modern heating method.
Write for FREE Booklet:
"Automatic Oil-Heat Provides the Answers to Your Heating Problems."
Consult a Member of the
WISCONSIN OIL-HEAT ASS'N., Inc.
623 N. Water St.

SAFE!
• automatic
OIL-HEAT
IS READY NOW!
You needn't "wait" for OIL-HEAT — this safe, convenient, thoroughly dependable, automatic heating can be installed in your home NOW!
WRITE
for the FREE Booklet:
"Automatic Oil Heat Provides the Answers to Your Heating Problems."
Consult a Member of the
WISCONSIN OIL-HEAT ASSN, INC.
622 N. Water St.
Milwaukee 2

PREFERRED BY MILLIONS!
AUTOMATIC
Oil-Heat
CAN BE INSTALLED IN YOUR HOME—NOW!
Join the millions who have found complete home heating satisfaction and security with automatic OIL heat — today's safest, most dependable home heating system.
Write for FREE Booklet:
"Automatic Oil-Heat Provides the Answers to Your Heating Problems."
CONSULT A MEMBER . . .
WISCONSIN OIL-HEAT ASSOCIATION, INC.
622 N. Water St. • Milwaukee 2

AUTOMATIC
Oil-Heat
IS AVAILABLE NOW!
NO WAITING . . . today's finest automatic heating can be in your home before summer ends.
CONVENIENT
DEPENDABLE
SAFE
ECONOMICAL
Write for FREE Booklet
"Automatic Oil Heat Provides the Answers to Your Heating Problems."
Consult a Member . . .
WISCONSIN OIL-HEAT ASS'N., Inc.
622 N. Water St.
Milwaukee 2

These advertisements *prepared for the Summer newspaper campaign of the Wisconsin Oil-Heat Association, Inc. are copyrighted by Mottram Advertising Co., Milwaukee. Mottram is executive secretary of the group.*

Nonfarm housing Starts show Decline in June

PRELIMINARY FIGURES of the U. S. Labor Department's Bureau of Labor Statistics estimate there were 106,000 nonfarm housing starts in June, compared with 144,300 in June 1950 and 132,500 in June 1951. For the first six months 1952 nonfarm housing starts amounted to 567,500, a decline of 4% from the 590,000 reported in the same period last year and almost 20% down from the 705,700 nonfarm houses started in the first six months of 1950. The Bureau explains that a considerable number of publicly-owned units were started in June, 1950 and 1951.

Private housing starts totaled 523,500 units for the first half of this year, 5,600 units under last year's volume for the same period. Between the first and second quarters of 1952 there was recorded a 30% increase in new private dwelling starts. The June estimate of 99,200 private starts was the largest for the month in any year except 1950.

Publicly-owned housing placed under construction this year has been declining in volume since March. The first six months total this year, 44,000 units, is 28% under the January-June 1951 total.

Preliminary reports to the Bureau during June reveal a small decline from May in new nonfarm dwelling units authorized for construction. Regionally, decreases were indicated in all sections of the country, except the Mountain and Pacific states; by cities nearly all the larger reporting localities, 100,000-or-more population, showed decreases from May to June.

❖

J. M. Selden has been named manager of the Eastern Div., Shell Chemical Corp., New York 20, N. Y. Selden has been associated with the marketing of Shell Chemical products since 1933, first as vice-president and director of R. W. Greeff & Co., and then as sales manager of the chemical firm's Eastern Div., created in 1946. In his new position as manager, Eastern Div., Selden will continue to administer sales activities based on these established products and others such as additives for distillate fueloil.

Burner Profits for oil Men?

Each new fueloil Customer from burner Sale means more Investment for the Dealer

by
Charles E. Bennett*

THERE CAN BE NO QUESTION that the oilheating business was built up by the sale of oilburners, not of fueloil, for if no burners had been installed, there would be no need for oil. Thus, as a matter of plain fact, oilburners are the foundation of the oilheating industry, and that is why it should be a matter of serious concern that so much is heard today about the lack of profit in burner sales. Obviously, if burner sales are not profitable, fueloil dealers will eventually lose interest in them and the industry will cease to grow healthy.

Yet there is no doubt that today many oil men are making no profit, or insufficient profit, on their burner sales. I know this to be true in the key metropolitan area my company serves, and I have reason to believe that it is equally true in other areas.

My own company has experienced the problem of losses on burner sales. It has been unpleasant and discouraging, but I know as a result of our experience that it is entirely possible for any company to at least stop losing money on burner sales, and in most cases to make fair money on them.

In the early days of the oilheating industry everybody who sold oilburners expected to make money on them, and usually did. There are three reasons why this has changed. The general price level of burners is lower and competition has increased. But I think the principal reason is that a great many dealers think that since they are primarily in the fueloil business, they can afford to sell burners with little or no profit so they can get the resulting oil business.

This is a fallacy. We should realize that every time a new oil customer is taken on there is increased need for capital investment in trucks, tanks, and so forth. I have heard it said that an average of $50 to $60 of working capital is needed today for each new oil customer, and from my own experience I would say this figure is accurate.

Charles E. Bennett

No automobile dealer would think of selling a car with little or no profit in order to get the resulting gasoline and service business. Likewise, no fueloil dealer should think of selling an oilburner without a proper return. Our logical goal should be to make enough on each burner installation to take care of the capital required to serve the new oil customer.

As my company came to realize this cold economic fact we made up our minds that we would rather lose a sale than lose money. Our first step was to know our correct costs. Today we keep an accurate record of every direct and indirect cost involved in selling and installing. I would earnestly recommend that everybody in the oilheating business do the same. It is my guess that a great many dealers do not do adequate cost accounting.

Every burner quotation should include ample allowances to cover the burner and all parts, sales costs, labor time, time spent in checking survey specifications, obtaining permits and inspection. There should be allowance for the miles that men and the installation truck have to travel and also for the time the truck is tied up while loading and standing. An inventory charge should be included, because it costs money to stock and store burners. Needless to say, general and administrative overhead costs should be fully weighted.

I think it would surprise many dealers to learn what their correct costs are, but once these are known any normal businessman naturally should want to get enough to cover them.

Once we began at our company to get the correct picture of our costs and what our selling prices should be, we made a determined effort either to get the right price or none at all. This has not been an easy job in the highly competitive area in which our company operates, but we have met with an increasing degree of success.

Real quality Installation

We resolved that we would not only get a fair price but that we would guarantee every purchaser a real quality installation. Our selling is predicated upon providing a fully-engineered, clean and efficient job, and we leave no stone unturned to deliver what we promise. Our salesmen know that this is a fact and in a gratifying percentage of cases are able to convince prospects that a Bennett installation is worth paying a little more to get. I think it is true of human nature that although nearly everybody likes to save money he has some misgivings about a product that is offered at a cheaper price.

We capitalize on this by stressing that a good installation is far more economical in the long run. I realize there is nothing new in this idea, but it is the carrying out of the idea that counts. I think one of the most important things in assuring oilburner profits is to really concentrate on carrying out this idea. Oftentimes it takes real hard selling, but these are days when real hard selling is required. I think that this is too often overlooked.

*President, Lawrence J. Bennett, Inc., Hempstead, N. Y.

Salesmen *should be constantly coached in techniques of selling quality installations, says Bennett.*

Both I and Robert Skarka, our sales manager, spent a great deal of time with our salesmen discussing and trying out improved approaches and techniques of quality selling. It is a never-ending job.

I don't like to sound critical of oilburner manufacturers for I am sure they have their problems, too. Nevertheless, I think that in general they could do a great deal to help their dealers make better profits. For one thing, they could generally aid and encourage their dealers to set up adequate cost accounting systems. Second, they could do much to educate dealers and their salesmen in quality selling. Third, they can supervise their dealers more carefully and try to correct those who, unmindful of the economical facts of life, tend to create an unprofitable market. Fourth, every manufacturer can and should refrain from setting up too many dealers in any area.

Naturally, it is hard for a dealer to get a fair price for a given make and model of burner if another man in his area offers the same make and model for less money. Where there are too many dealers for any one make of burner, competition is intensified and the price level is likely to drop below the break-even price.

When a heating contractor sells equipment, he makes sure that he makes money on it because it is the only thing he has to sell. Even if a fueloil dealer figures that he is justified in taking a loss on burner sales, there is no good reason why he has to. In a really sound business every department should yield its fair share of profit, and burner sales can be a satisfactory source of income if we will only work to make it so.

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OPS defines Procedure for fueloil price Adjustments

AMENDMENT 7 to Ceiling Price Regulation 17, effective August 13, has been issued by the Office of Price Stabilization, under which independent fueloil dealers may apply for price increases. Each dealer will apply on a form on which he will show his basic operating figures on expenses and earnings. If a representative group of dealers, interpreted as those who sell at least 50% of the fueloil sold in the area by independents, shows that its earnings are lower in the year ended May 31, 1952 than they were in the year ended May 31, 1950, regional offices of OPS, who will handle the applications, are expected to grant routine increases.

The regional office will define the area in which the increase will be effective and any ceiling price increase granted will apply to all tank wagon deliveries of fueloil in the area, including those made by major oil companies and independents.

The formula under which the plan will operate is an adaptation of the industry - earnings standard under which OPS authorizes nationwide price adjustments where earnings are less than the best three of the four years 1946 through 1950. Amendment 7, however, will be operated on an area basis, as defined by the regional OPS office, with ceiling price relief worked out to restore earnings to pre-Korean levels, the year ended May 31, 1950.

Briefly, the following procedures are to be observed. A representative number of fueloil dealers in an area apply to OPS District Offices and request a price adjustment. Such applications require the name and address of the company applying under amendment 7 to CPR-17; the type of operation; identification of the marketing area; total gallonage of light fueloil deliveries made for the base period and the year ending May 31, 1952 with gallonage broken down into deliveries to resellers and consumers; net operating income from light fueloil sales and a statement explaining why the applicant regards a price adjustment as necessary.

When a sufficient number of these requests have been received, the District Office of OPS concerned then decides if a detailed survey is indicated. If so, copies of OPS Public Form No. 151 will be sent to all who have filed a request for adjustment. The Forms, calling for detailed information on expenses and earnings including oilburner service, are completed and returned to the OPS District Office, where final determination on any price adjustment is made and the area where it is to apply is defined.

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W. B. "Wib" Johnson has been appointed sales promotion manager, Norge Heat Div., Borg-Warner Corp. Johnson formerly was advertising manager of heating equipment of the Ingersoll Products Div.

Begin new Series of New England burner Classes

FOR THE EIGHTH consecutive year the Oil Heat Institute of New England is holding instruction courses designed for oilburner service and installation men. Course "H" began on September 8 in Auburn, Me., followed on successive nights by classes in Portland, Manchester, N. H., Lawrence and Salem, Mass. The program this year has been enlarged to include fifteen cities, with ten classes scheduled to be held in each city.

Ivan C. Sutherland, director of education for the Institute, is in charge of the program, with representatives from manufacturers furnishing lecturers for instruction at each of the ten sessions scheduled for this series. As a change from the procedure followed in previous courses, more time is being devoted to individual subjects in the current classes.

Three nights, for example, are reserved for controls, with the first session covering oilburner primaries; the second discussing thermostats, limit controls and accessory controls and the third, control application and electronic control systems. The fourth class presents information on oilburner combustion and combustion chambers.

Two nights are set aside for low pressure oilburners, one on the Oil-O-Matic and the other on Winkler burners, with Timken wall flame oilburners the subject of the seventh session. Combustion testing equipment and its use and warm air duct design and installation are the topics discussed in the 8th and 9th session. The program is concluded with a presentation on the servicing of G-E oilheating equipment.

The schedule for each of the cities for Course "H" follows:

Auburn, Me.: September 8, 15, 22 and 29; October 6, 13, 20 and 27; November 3 and 17.

Portland: September 9, 16, 23 and 30; October 7, 14, 21 and 28; November 4 and 18.

Manchester, N. H.: September 10, 17 and 27; October 1, 8, 15, 22 and 29; November 5 and 19.

Lawrence, Mass.: September 11, 18 and 25; October 2, 9, 16, 23 and 30; November 6 and 20.

Salem, Mass.: September 12, 19 and 26; October 3, 10, 17, 24 and 31; November 7 and 21.

Providence: January 5, 12, 19 and 26; February 2, 9 and 16; March 2, 9 and 16.

Brockton, Mass.: January 6, 13, 20 and 27; February 3, 10 and 17; March 3, 10 and 17.

Quincy, Mass.: January 7, 14, 21 and 28; February 4, 11 and 18; March 4, 11 and 18.

Watertown, Mass.: January 8, 15, 22 and 29; February 5, 12 and 19; March 5, 12 and 19.

Malden, Mass.: January 9, 16, 23 and 30; February 6, 13 and 20; March 6, 13 and 20.

Bridgeport, Conn.: March 30, April 6, 13, 20 and 27; May 4, 11, 18 and 25; June 8.

New Haven, Conn.: March 31; April 7, 14, 21 and 28; May 5, 12, 19 and 26; June 9.

Hartford, Conn.: April 1, 8, 15, 22 and 29; May 6, 13, 20 and 27; June 10.

Springfield, Mass.: April 2, 9, 16, 23 and 30; May 7, 14, 21 and 28; June 11.

Worcester, Mass.: April 3, 10, 17 and 27; May 1, 8, 15, 22 and 29; June 12.

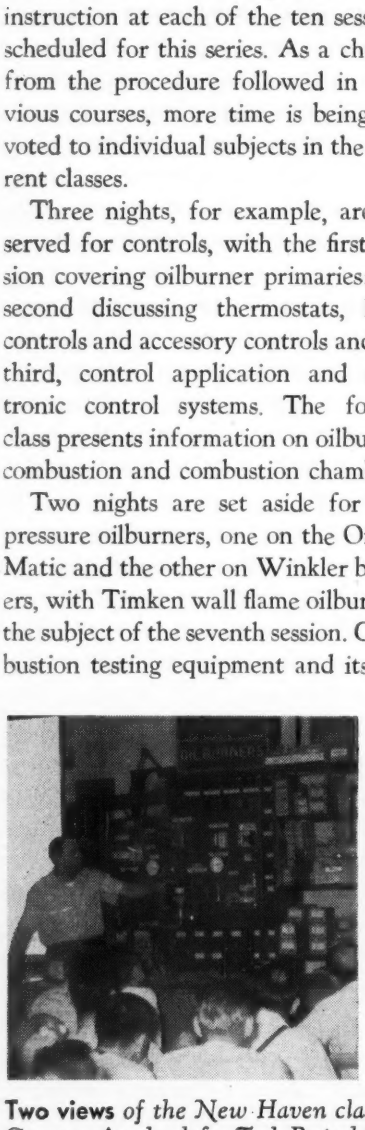
Reporting on the success of last year's Course "G," Sutherland has revealed that 316 full-time students registered for the instruction, of which 293 were graduated, plus 9 part-time students. Attendance averaged 81.9%, a commendable record since the classes ran to June 27, a month when extremely hot weather was experienced in the New England area.

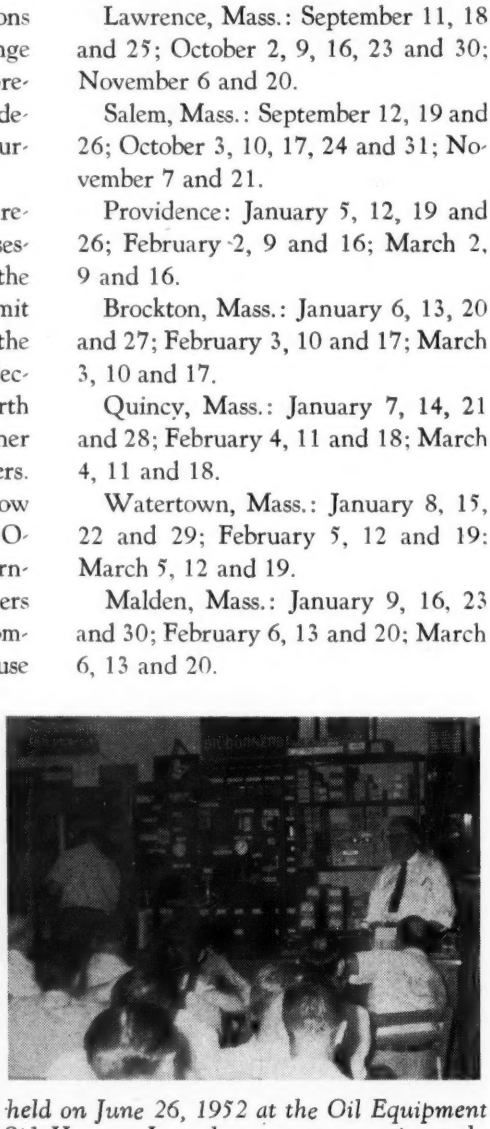
Classes outgrow meeting Places

An interesting sidelight developed in Hartford and New Haven where the classes became so large they outgrew their meeting places. The Fire Marshals in both cities then invited the Institute to hold its next schools in the Central Fire Station in Hartford and the New Haven Fire College. This reflects as much as anything else the close cooperation that has developed between the Institute and the Fire Departments during the time these courses have been held. It has become an Institute policy to invite the Fire Inspectors in each locality to attend free of charge so that they can learn first hand the installation and service practices that are being taught and be guided thereby in their inspection of oilburner installations.

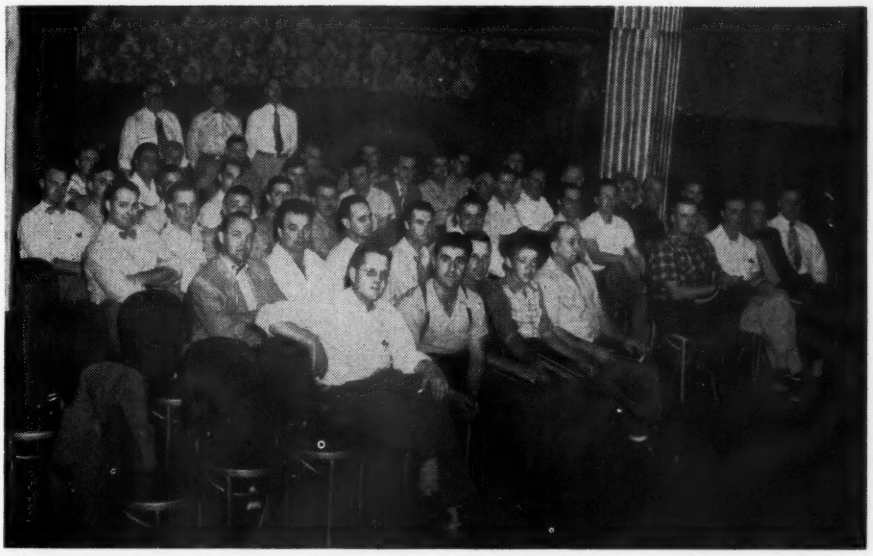
To publicize Course "H" the Institute is building a complete new mailing list for the purpose of circularizing each dealer in New England, informing him of the classes and asking him to disseminate the information among all members of his organization. In addition, publicity is being arranged in each city where classes are scheduled.

All the classes in the Course are held in the evening and at the end of each the student receives a bulletin or summary of the night's instruction. These he retains permanently in a loose





Two views *of the New Haven class held on June 26, 1952 at the Oil Equipment Center. At the left, Ted Rojecki, Sid Harvey, Inc., demonstrates service techniques for General Electric heating equipment, using a G-E operating board. The other picture shows Ivan C. Sutherland, director of education for the Oil Heat Institute of New England, opening the meeting.*



Class *at Hartford, Conn., part of the Oil Heat Institute of New England's Course "G" for oilburner service men and installers. Standing in the rear, left to right, are: Ivan C. Sutherland, Institute Director of Education; Salvatore Morocco, Bell Pump, who assisted Sutherland at this meeting and Harold Yeazel, Lennox Furnace Co., instructor for the night on warm air heating.*

leaf binder provided for that purpose. Included is a group of 10 questions that represents his "home work." To pass the student must attain a mark of 70% and upon graduation he is presented with a certificate and lapel button. A nominal tuition fee is charged by the Institute, which just about covers administrative and operating costs, with members allowed a discount. Registration is on the basis of first come, first served.

The overall program operates on the theory that the classes, for which manufacturers furnish lecturers, are not to sell any make or type of equipment, but rather are meant to explain to the students operating principles and product application and to acquaint the men with service problems that might be encountered in the field. The manufacturers who participate have been most cooperative and the only restraint the Institute exercises is to preview the instruction to be sure that "the selling is left out."

The subjects themselves and their treatment are worked out with the knowledge that the classes are comprised of newcomers to the business as well as the old hands. A happy medium is sought that will present information helpful to students so that everybody gets some good out of the schedule.

Graduates of the course, admittedly, are not finished service men, but experience has demonstrated that each has gained a basic knowledge of oilburner service and installation that he can use effectively. All in all, the Institute's Courses represent a worthwhile effort at providing a combination refresher course and extension of the oilburner knowledge that each student has.

Oilburner Committee meets Aug. 21 with NPA Officials

MEMBERS of the Oil Burner Industry Advisory Committee on August 21 discussed with National Production Authority officials the effects of the steel strike. John R. Winterberg of NPA's Building Materials Division, presided. Industry members who attended were:

Robert L. Bridgman, American Radiator & Standard Sanitary Corp.; D. Grey Knowles, Fluid Heat Div., Anchor Post Products Co.; Joseph Hearst, Automatic Burner Corp.; J. V. Resek, Cleaver-Brooks Co.; L. A. Casler, Eureka Williams Corp.; C. W. Schaefer, General Automatic Products Corp.; E. K. Priest, Lynn Products Co.; H. S. Beagle, The Miller Co.; Robert Neville, The Nu-Way Corp.; William Godley, Peabody Eng. Corp. and R. S. Bohn, Preferred Utilities Mfg. Corp.

The committee informed NPA that although the industry's allotments of steel under CMP are adequate, steel mills will not promise delivery for third quarter 1952 allotments until the first quarter next year. Committee members asked that the oilburner industry receive special assistance, possibly in the form of NPA directives to insure delivery of steel. NPA noted the effects of the steel strike were being felt in all steel-consuming industries and that military and atomic energy demands must receive first priority.

Should military set-asides prove larger than required, the excess will be parcelled out among elements of the civilian economy. NPA stressed that it would render whatever assistance it could if manufacturers should be faced with shutdowns because of lack of steel.

The meeting heard reports that the supply of copper and aluminum products is improving and that manufacturers are experiencing no difficulty in cashing their CMP allotment tickets for both metals.

NPA explained the new automatic allotment procedure, effective in the first quarter of 1953, which will relieve a number of "B" product manufacturers from filing for allotments.

U. S. Department of Labor Fueloil Prices (June)

FIELD INVESTIGATIONS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published, including applicable state and local taxes. Those in the table that follows were taken June 15 (cents per gallons):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	15.07	14.57	12.60	..
Manchester	15.40	14.90	13.30	..
Portland, Me.	14.40	14.40	12.40	..
Buffalo	15.25	..	14.04	14.04
New York	..	..	12.71	..
Philadelphia	..	13.43	12.20	..
Chicago	14.83	14.48	13.57	13.57
Detroit	..	15.04	14.01	..
Milwaukee	..	15.04	14.10	14.00
Kansas City	..	13.06	12.04	12.04
Minneapolis	14.77	14.53	13.48	13.53
Baltimore	..	13.36	12.44	..
Wash., D. C.	..	13.84	12.85	..
Jacksonville	..	14.87	13.25	..
Norfolk	..	13.60	12.20	12.20
Richmond	..	14.00	12.60	..
Savannah	..	16.58	13.97	..
New Orleans	..	13.33	12.77	12.77
Denver	..	14.42	13.32	..
Portland, Me.	..	14.50	12.10	..
San Francisco	..	13.87	11.54	..
Seattle	..	15.33	13.20	..

New Building *opened July 14 at 116 No. Plymouth Ave. in the heart of Rochester has 30,000 square feet of space on three floors. The ground floor has a self-service arrangement where dealers or service men can nose around and help themselves if they like. There is off-the-street parking for 15 customer trucks at a time, with three truck ports for loading in or out.*

Oilheating Supermarket

New Rochester wholesale House lets dealers inspect and select their Needs

WITH SIX MILLION oilburners now operating in the country and with new installations averaging near three-quarter million a year, oilheating supplies have become big business. With two or three exceptions the firms specializing in oilburning accessories, parts and installation materials are of recent origin . . . mostly postwar. Yet they have become very prominent in the heating jobber picture.

Most of them have been built around pump exchange and repair depots, set up to give dealers and their customers better service than in the old days of either sending pumps back to the factory for fixing or else selling a new one whenever trouble developed.

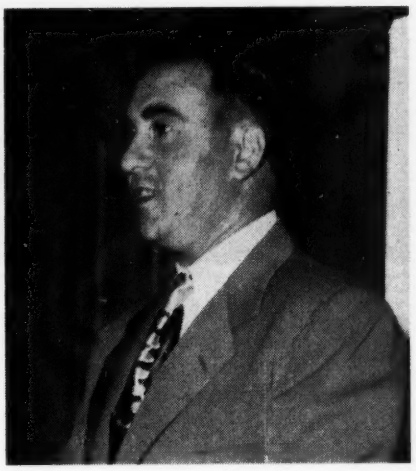
An example of the vitality of this group is the new self-service "supermarket" opened at mid-July by Rochester Oil Burning System, in Rochester, New York. While this company had been started back in 1932 by the late Max J. Koval and his three sons, it was then a dealership and it was not until 1946 that the company took on its present form. Only $6,000 capital was put into the venture at that time and today, six years later, it has grown to very significant proportions, as the new building testifies.

Irving S. Koval, active head of the business today, believes that this is the first attempt at a self-service store for oilheating supplies, although he has seen them in wholesale radio and hardware trades.

Indicating the diversity of its coverage, the company is an authorized service station for Sundstrand, Webster and Tuthill pumps and is a factory exchange station for Penn, Perfex and White-Rogers controls. Only a fourth of its business originates in Rochester, the balance coming through salesmen who travel most of upstate New York. There's a Buffalo branch just opened.

Rochester Oil Burning System concentrates on accessory, service and installation items. It does not sell boilers, furnaces or any type of oilburners, yet did over a half million dollar volume last year.

Pumps, controls *and other accessories are tested, repaired and exchanged through the shop facilities on an upper floor. This type of work was the nucleus a few years ago around which the specialized oilheating supply business developed.*



Irving S. Koval, *head of the business today, is also secretary of the Rochester chapter of OHI, and has developed some rather definite ideas on how educational meetings should and should not be run.*

Self-service *shelving and bins, showing how service men make their own selections, often saving a lot of time and, equally important, letting them examine the various choices for a particular application they have in mind. They take their selections to a service counter to be wrapped and settled for. Of course, if some customers prefer counter service all the way it is gladly furnished for there are duplicate stocks of most items in the bins back of the counter workers.*

Koval is strong for education in the oilheating industry and does everything he can to expedite it. He urges dealers and service men to bring in every kind of problem that may be troubling them and believes that within the personnel of his staff they can answer almost anything that comes up about oilburning. And it isn't a one-man street. The men who come in are encouraged to discuss their unusual applications or difficulties and how they licked them . . . so it's an interchange.

When you consider that two-thirds of all oilburners operating today have been installed since the end of the war and that skilled manpower has shown less than half the growth of the industry itself, Koval reasons that even elementary oilheating education is vitally needed.

The clinics were started three years ago. Harold Wahlmark, then with Sundstrand, asked Koval if he could put together a meeting for service and application of Sundstrand pumps. Invitations were sent out to a large list and to Koval's delight 185 men showed up, which justified his belief that men in our industry were thirsty for education.

This was the start of what now amounts to a series of nine meetings a year, one a month, except in summer. During the past season the meetings were duplicated in Buffalo the following nights. Typical of the lecturers last winter and the companies represented were: W. Barmstetter for Minneapolis-Honeywell, B. Douglas for Sundstrand pumps, H. Nunnally for Bacharach Industrial Instrument, M. I. Levy for Viking Air Conditioning, B. Kahrkoff for Automatic Products, I. M. Nelson for Boston Machine Works and W. Ellwood for Perfex Controls.

Koval has gained experience on what helps and what hurts such meetings. First, he has found that to hold genuine interest in all of the meetings the sessions must be for information purely, and not a sales meeting . . . there must be a genuine desire to help the men rather than the manufacturer

Company clinics, *now in their third year, bring anywhere from 100 to 200 oilburner men for a night of oil heat training nine times a year. Manufacturers furnish the lecturers for these meetings, now held in both Rochester and Buffalo, with the sessions held in hotels rather than at the company's place of business.*

at the moment. Naturally, when any manufacturer helps the men he gets some excellent recognition in a public relations way, but selling must not be done in the lecture. Koval feels so strongly on this point that he even stopped mentioning the name of his own company at the meetings, referring to it only on the reply card that was sent out with the announcement.

Second, he learned that one mailing and one card was not enough. A second reminder postal that arrived the day before the meeting increased attendance considerably. Third, he found that a good door prize increased the number.

Fourth, to break the ice and get a good question period started, he asked the men to write questions on the reply cards they were sending in. There were enough of these to encourage others to speak up in meeting.

Fifth, the meetings were held in public rooms of hotels rather than at the place of business. No food was served and the meetings were started at 7:30 P.M., so the attendance was for real business purposes rather than social.

In most meetings of industry leaders in the past year the need for training and encouraging new oilheating manpower has been recognized as a top problem. With oil higher in price today it is more than ever necessary that the consumers get excellent efficiency and service. Koval's clinics are making a contribution, while his new self-service establishment is demonstrating his business imagination and his capability to be particularly useful to the oilheating fraternity.

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Texas-Newark Pipeline gets green Light from PAD

APPROVAL for the construction of a common-carrier petroleum products pipeline from Beaumont, Texas to Newark, New Jersey, at a cost of approximately $142 million, has been given to the U. S. Pipeline Company of New York by the Petroleum Administration for Defense.

The 450,000 B/D products line has been given priorities assistance for 211,000 tons of steel. It is estimated that a total of 319,000 tons will be required to complete it.

Military backing was the underlying factor in the approval by the PAD for the project headed by Paul Ryan and R. T. Haslam. It will be a common carrier, owned and operated by non-shippers and offering both contract and spot rates.

Tentatively, top-quantity rate—15,000 B/D minimum movement guaranteed for five years—from the Gulf Coast to the East Coast has been set on gasoline, 29¢ per barrel; kerosene, 32.5¢ and distillate fueloils, 34¢. Contracts will be on a ship-or-pay basis. Already, the line's initial capacity, is oversubscribed.

The approved plans call for 550 miles of 24-inch from Beaumont to Jackson, Tennessee and 1,045 miles of 22-inch line from Jackson to Newark via Columbus, Ohio and Pittsburgh. Also included in the plans is a 120-mile spur of 14-inch pipeline from Jackson to Paducah, Kentucky.

The line is scheduled for completion in September 1953 and will have an initial capacity of 300,000 B/D of petroleum products.

This line may have a pronounced effect on East Coast oil marketing. It will offer year-round transportation from the Gulf at low, stable rates—and will relieve pressure on East Coast heating oil supplies at peak demand.

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OIIC makes up Proofbook for Oil Progress Week

A PROOFBOOK containing 48 advertisements especially for tie-in use during Oil Progress Week, October 12-18, is now being distributed to all daily and weekly newspapers by the Oil Industry Information Committee, American Petroleum Institute. Mats are free upon request.

Last year, more than one million dollars worth of special advertising resulted from a similar Oil Progress Week proofbook.

Designed specifically to aid both oil men and advertising departments, text and artwork invite public attention to the oil industry as it makes its fifth annual report to the people on its progress and achievements.

Subjects covered include exploration, production, transportation, refining, research and marketing. Some advertisements will help fueloil dealers to tell their own particular stories of progress. Some are addressed to farm audiences. Others will enable allied industries to salute the oil men.

The OIIC is also making available a series of special feature stories and photographs to newspaper editorial departments. These will help editors make up special sections or special editions during Oil Progress Week.

Why use anti-siphon Valves?

fueloil & oil heat
Short Short Article
on Burner Service

BECAUSE they work mostly on inside-tank jobs, there are service men who have worked on burners for years without learning about anti-siphon valves. Such a man recently was being briefed by his new boss on starting up a pressure burner connected to a 550-gallon outside tank.

The job was of the pattern shown in the drawing, which is simplified in that the oil lines have no hand shut-off valves and the oil tank has no fill and vent lines. The job had the type of anti-siphon valve shown schematically in the drawing.

"If you hold open the anti-siphon valve by hand while you keep the burner motor running," the boss said to his service man, "the job will start up like any other outside-tank job. Some service men start up a new burner or an air-bound fuel unit this way; they let air out of the fuel unit for a few seconds, then go over to the anti-siphon valve and open it manually for a few seconds, of course keeping the burner motor running all the time. Other men keep open an air vent valve or plug in the fuel unit and arrange a rag or can to catch any fueloil that might squirt out; with the burner venting itself that way and running steadily, they hold the anti-siphon valve open by hand. Still other men use a small screw or something, cleverly applied to the anti-siphon valve to keep it blocked open.

The anti-siphon valve in the drawing is opened manually by removing its bottom cap and pushing up its valve stem, which then is exposed. Putting a screw or piece of wood inside the cap and then replacing it is one way to block open the valve temporarily.

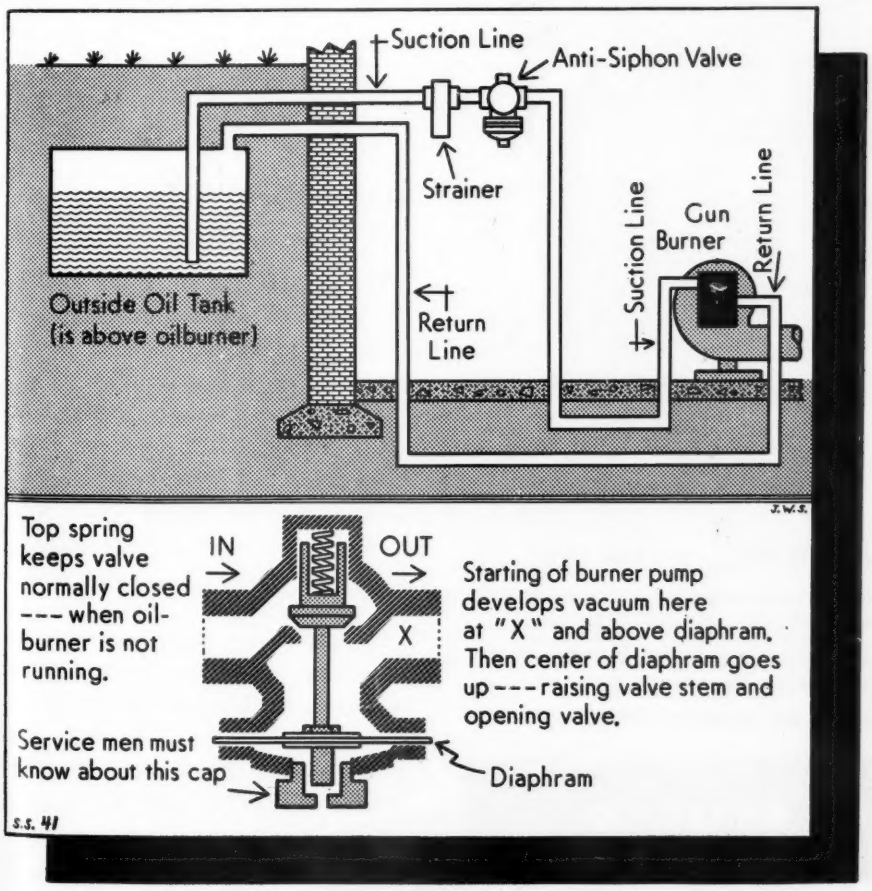
"Of course, seldom do you actually monkey with an anti-siphon valve to start an air-bound burner," the dealer went on instructing his service man. "In fact, certain anti-siphon valves don't have hold-open buttons or block-open arrangements because their designers find such things unnecessary. But to avoid appearing like a dumbhead, you should know the why's and wherefore's of hold-open buttons you find in certain anti-siphon valves."

"I know that this company we work for always uses an anti-siphon valve where the outside tank is higher than the burner," said the service man. "I gather safety is involved because certain oilburner rules and regulations require anti-siphon valves where tanks are above burners. But what is the exact reason for installing such a valve?"

Here's the gist of what his boss told him. Oil lines around burners and elsewhere low in basements sometimes spring leaks, corrode through, or plain get busted. With say 500 gallons of oil in the tank shown in the accompanying drawing, except for the action of the anti-siphon valve there would be potential danger if, say, Junior came careening through the basement on his tricycle and broke the suction line at the burner wide open. An accident like that, or any other similar wide-open break of an oil line or fitting close to the floor, could possibly siphon into the basement all the oil stored in the outside tank . . . without the positive protection given by a good anti-siphon valve, that is. The breaking or leaking of certain oilburner parts can invite large amounts of oil into the basement just as if no anti-siphon valve is used.

By remaining tight-closed except when tugged open by a slight vacuum created by running the pump on the oilburner, an anti-siphon valve eliminates the danger of oil siphoning into a basement from an outside tank. That's why certain safety authorities as well as ultra-conscientious oilburner dealers are dead-set in favor of using good anti-siphon valves on all jobs that can have a siphon type of hazard because filling the tanks causes a good deal of the stored oil to be above the level of the oilburners.

Made in sizes from ⅜" to 2" and for commercial and industrial jobs as well as light-oil domestic installations, these anti-siphon valves have other characteristics and benefits that every burner expert should know all about. Obtaining and reading the technical literature and instructions covering the leading makes of anti-siphon valves is one good way to learn more about them.



Oilheating registers Gain in Appleton, Wis., Zone

A SURVEY, conducted in April by the Appleton, Wis. *Post-Crescent* and consisting of more than 1,300 personal interviews, shows that oilheating has registered its third gain in successive years. In the Appleton City Zone where the survey was made, 46.1% of the homes are oilheated, compared with 42.7% last year and 38.7% in 1950. Coal, still the leading fuel and used in 47.7% of the homes, has declined from the 53.1% reported last year and 58.6% in 1951.

Gas, including bottled and natural, is used for heating in 5.9% of the Appleton Zone homes, up from 3.1% in 1951 and 0.1% in 1950. Coke is used in 0.7% of the homes, down from 1.4% in 1951, 3.1% in 1950 and wood was reported by 0.4%, 0.2% and 0.1% of the homeowners in the three years.

The table lists the number of homes heated with the indicated fuel for the last three years.

	1952	*1951*	*1950*
Coal	11,530	12,168	12,758
Oil	11,143	9,786	8,420
*Gas	1,426	710	36
Coke	169	320	677
Wood	97	45	18

*Includes bottled and natural gas.

Another portion of the survey investigated the type of heating system used and developed that forced hot air has replaced gravity hot air as the most popular. Forced hot air systems are installed in 47.5% of the homes, as against 36.2% last year, 22.6% in 1950. Gravity hot air has dropped to 35.5% of the total, declining from 48.5% and 62.6% in 1951 and 1950, respectively. Space heaters are used in 7.7% of the homes, up from 5.4% and 5.5% reported in the two previous surveys and hot water is preferred by 7.1% of the families, compared with 6.9% in 1951 and 7.7% in 1950. Radiant systems were reported by 1.6% of the families this year, 1.4% last year and 0.9% in 1950. Steam heat is employed in 1.0% of the homes covered in the survey, down from 1.6% in 1951 and 1.1% in 1950.

The table shows the actual number of each type of heating system in use.

	1952	*1951*	*1950*
Forced hot air	11,481	8,295	4,924
Gravity hot air	8,532	11,142	13,635
Space heater	1,861	1,283	1,190
Hot water	1,716	1,581	1,684
Radiant	387	320	201
Steam	314	366	238

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Harry Kiritz sells out to Kellogg Petroleum

THE PURCHASE of all of the stock of Terminal Petroleum Corp. from Harry J. Kiritz, president, and members of his family has been announced by Kellogg Petroleum Products, Inc., Buffalo, N. Y. Kellogg, distributor for Tydol products, will operate Terminal, which distributes Cities Service products, as a subsidiary company. The amount of cash involved in the transaction was not revealed.

Kellogg Mann, president of Kellogg Petroleum, explained that the purchase was made "partly because of Terminal's large fueloil business. This will tend to bring into balance our high volume of gasoline sales in Summer months."

The operations of Terminal are to

SENSATIONAL NEW PULSATION FREE !

THE SILENT GLOW Express Head OIL BURNER

Triple Guarantee

1) To operate without pulsation.

2) To be free of defective materials and workmanship.

3) To be equal or better in efficiency than any other oil burner, regardless of price.

Here, at last, is your completely successful answer to the problem of "pulsation" now so commonly encountered in compact, modern furnaces. "Express Head" represents an engineering achievement, unique in the annals of burning oil for home heating, which makes it possible to wring every drop of heat out of every drop of oil. Not a single B.T.U. is wasted, with a fire that is brisk and lively, yet far quieter than ever before attained in limited size combustion chambers.

Not to be confused with any of the ordinary burner heads of the jet variety, "Express Head" brings you and your customers an entirely new degree of economy, efficiency, and quiet, trouble-free operation. Added PLUS values are MINIMUM SERVICE, with the exclusive "TIME-SAVER TOP," TIME-TESTED and PROVED SILENT GLOW basic design and quality in every detail, and the unique TRIPLE GUARANTEE clearly stated herewith. Waste no time. Write NOW for full details. Know and sell this great new burner.

Those Who Know Choose SILENT GLOW OIL BURNERS

To: THE SILENT GLOW OIL BURNER CORP.

850 Windsor Street, Hartford 5, Connecticut
1500 So. Western Ave., Chicago 8, Illinois

Send us the complete facts about Silent Glow Oil Burners including prices and your money-back guarantee.

Name:.....

Company:.....

Street & No.:.....

City:..... State:.....

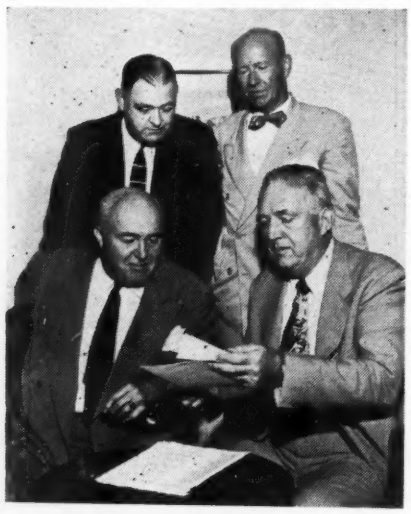
be continued without change, except that the officers of Kellogg Petroleum have become officers of Terminal Petroleum. Besides Mann these include: Charles D. Thomas, vice-president; Arthur L. Strickland, treasurer and Manly Fleischmann, secretary. Kellogg employs about 55 persons and has offices at 919 Main St., bulk plant at 717 Elk St. Terminal's offices and plant are at 1 Howell St. It has about 45 employees.

❖

Oil Progress Luncheon set for October 14 in N. Y.

PLANS for the Fourth Annual National Oil Progress Week Luncheon to be held at the Waldorf Astoria Hotel, New York City, October 14, were announced by Herschel C. Smith, president, American Oil Co. and chairman of the Luncheon Arrangements Committee.

More than 1500 oilmen and their guests are expected at the luncheon including presidents of some 65 oil companies active in the east who will be seated as guests of honor on the dais.



The members *of Special Guest Committee for the Fourth Annual National Oil Progress Week Luncheon to be held October 14 at the Waldorf Astoria Hotel, New York City, check their plans for the occasion. Left to right, seated: W. Chalmers Burns, president, Hartol Petroleum Corp., and Herschel C. Smith, president, American Oil Co. Standing, left to right: L. E. Ulrope, vice-president, Esso Standard Oil Co. and H. B. Van Cleve, president, Maritime Petroleum Corp.*

A special effort is being made to have an even larger proportion than last year of community leaders, educators and others outside the Petroleum Industry attend the meeting. Last year just over half those attending were from outside the oil industry.

Aiding Mr. Smith on the Arrangements Committee are: L. E. Ulrope, Esso Standard Oil Co., chairman, Ticket Committee; George D. McDaniel, Socony-Vacuum Oil Co., chairman, Speakers Committee; M. F. Braeckel, Sinclair Refining Co., chairman, Reception Committee; H. B. Hilts, Empire State Petroleum Association, chairman, House and Finance Committee and Fred Grinnell, Oil Industry Information Committee, chairman, Publicity Committee.

❖

OHI Technical Division names three Committees

COMMITTEE PERSONNEL have been selected for the first projects of the Technical Division, Oil-Heat Institute of America, Inc., as decided upon at the Division's April 15 meeting in Philadelphia. W. S. Quimby, Texas Co., chairman of the Division, in naming the committees explains that the selections have been worked out to use equal numbers of oil industry men and oilburner men.

Project No. 1 will study "Standardization of combustion test procedures," with B. A. Landry, Batelle Memorial Institute, acting as chairman of the committee. Other members are: D. W. Locklin, Timken Silent Automatic Division; J. A. Stein, Bacharach Industrial Instrument Co.; J. H. Witte, Underwriters' Laboratories; K. E. DeRosay, Sun Oil Co.; R. J. Finney, Cities Service Oil Co.; R. P. Gilmartin, Gulf Oil Corp.; S. H. Hulse, Standard Oil Development Co.

The second project aimed at "Establishment of an installation and service policy of maximum value to the public" is to be undertaken by a committee headed by C. H. Burkhardt, *Plumbing and Heating Journal*. Assisting him will be: C. T. Burg, Iron Fireman Mfg. Co.; G. R. Gardner, Bacharach Industrial Instrument Co.; I. C. Sutherland, Oil Heat Institute of New England; F. M. Miller, Tide Water Associated Oil Co.; S. P. Cauley, Socony-Vacuum Oil Co.; F. R. Dunn, Jr., Atlantic Refining Co. and F. J. Saunders, Standard Oil Co. (Ohio).

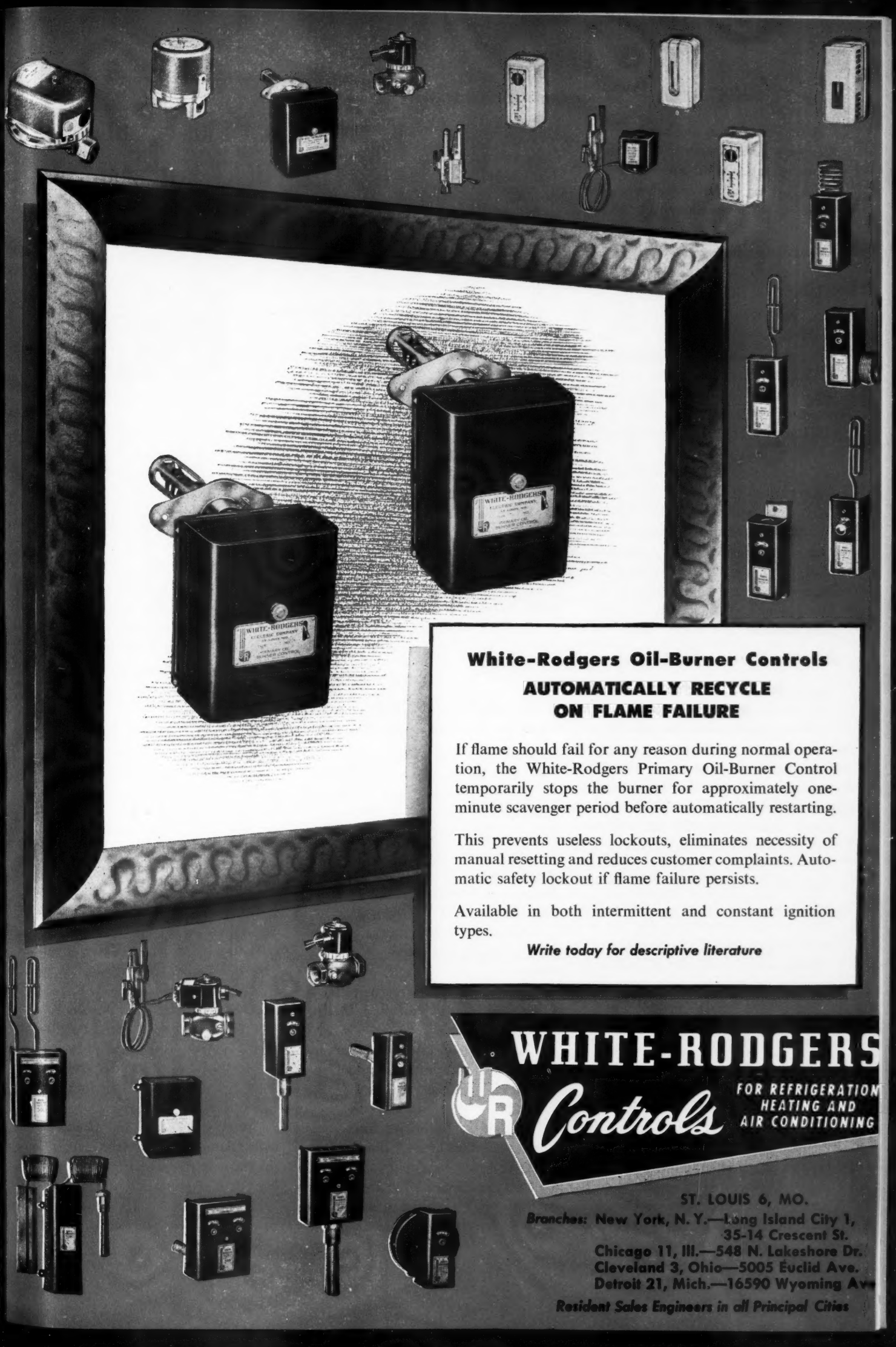
The "Study of trends in the characteristics of fueloil" is the third project, with J. L. Minner, Shell Oil Co., designated chairman of the committee which will make the study. The seven other members are: E. B. Frame, Monarch Mfg. Works; W. F. Klockau, Nu-Way Corp.; J. V. Resek, Cleaver-Brooks Co.; C. F. Suesserott, General Electric Co.; R. E. Biller, Standard Oil Co. (Indiana); C. M. Blickensderfer, Sinclair Refining Co. and C. H. Lyman, Standard Oil Co. of California.

❖

C. L. Peterson has been named general sales manager, Industrial Div., Minneapolis - Honeywell Regulator Co., Minneapolis, Minn. Peterson has been regional manager for Honeywell's Midwest region in Chicago since January 1950. He succeeds W. H. Steinkamp. Peterson joined Honeywell in 1927 as sales engineer in the San Francisco office.

R. Harry Crabtree, Memphis, Tenn., has been appointed to represent the Conco-Heat Line by Conco Engineering Works, Mendota, Ill., covering the states of Tennessee, Arkansas, Mississippi and Northern Alabama. Crabtree is a veteran in the wholesale plumbing and heating business and hardware field. For the past eight years he has been manager of the plumbing and heating department of the Salt Lake City Hardware Co., Salt Lake City, Utah.

Z. A. Marsh has been appointed sales manager, school division, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Marsh, for the past four and a half years manager of Honeywell's Oklahoma City office, will direct sales of heating, ventilating and air conditioning controls to the school market. He joined Honeywell in 1937 and has had varied experience in both production and sales work. Prior to his assignment in Oklahoma City, he was attached to the company's St. Louis sales office.



White-Rodgers Oil-Burner Controls

AUTOMATICALLY RECYCLE ON FLAME FAILURE

If flame should fail for any reason during normal operation, the White-Rodgers Primary Oil-Burner Control temporarily stops the burner for approximately one-minute scavenger period before automatically restarting.

This prevents useless lockouts, eliminates necessity of manual resetting and reduces customer complaints. Automatic safety lockout if flame failure persists.

Available in both intermittent and constant ignition types.

Write today for descriptive literature

WHITE-RODGERS

UR *Controls* FOR REFRIGERATION HEATING AND AIR CONDITIONING

ST. LOUIS 6, MO.

Branches: New York, N. Y.—Long Island City 1, 35-14 Crescent St.
Chicago 11, Ill.—548 N. Lakeshore Dr.
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Resident Sales Engineers in all Principal Cities

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

"Recruiting-Educational Plan" being readied by OHI Staff

A PACKAGED "Recruiting-Educational Plan" was proposed at the July 1 board of directors' meeting of the Oil-Heat Institute of America, New York 16, N. Y. The Plan is expected to be in tangible form for presentation at the next directors' meeting, October 10, at the Cavalier Hotel, Virginia Beach, Va.

Two committees of the Institute are collaborating on the program. The "recruiting" portion is in the hands of the Merchandising Committee consisting of Claude Potts, chairman, U. S. Machine; M. J. Donahue, Fluid Heat; Cy Burg, Iron Fireman; L. A. Casler, Eureka-Williams; T. A. Crawford, Timken; and Robert Gray, editor, FUELOIL & OIL HEAT.

The Merchandising Committee will recommend that the Institute make available an inexpensive "recruiting" booklet to be offered to the industry at cost. It is to be presented to manufacturers, wholesalers and jobbers for their distribution and over their individual imprint. It also will be suggested that the booklet be used in schools offering oilburner courses.

Appointments to the Educational Committee are now being made. There will be sub-committees to prepare complete courses appropriate for use at trade and vocational schools and engineering colleges. It also is proposed to furnish sales training courses at different levels and provide sales management clinics for dealers, distributors and manufacturers.

OHI of Greater Washington stresses "low cost" in Ads

OIL HEAT INSTITUTE of Greater Washington, Washington, D. C., is continuing its successful advertising campaign of last year by dramatically presenting to the public testimonials to the low cost of oil heat. Several of the advertisements headline the following facts: "94.08 . . . that's all I paid for Oil Heat last year . . . and mine is a large 3-bedroom house." "My Oil Heat bill averaged only $12.43 a month."

A. Graham Shields, managing director of the Institute, explained the objective of the program when it was first proposed in January of last year. He said that it is aimed at not only preserving the present market from the inroads of natural gas competition, but to present facts to the public to induce them to insist to builders and architects on the installation of oilburning equipment in new construction.

Mr. Henry A. Deeble of 830 Gist Avenue, Silver Spring, Md. Says:
"$94.08...that's all I paid for OIL HEAT last year... and mine is a large 3-bedroom house!"
"Oil heat is most economical. I know. My bills have certainly proved it to me. From May 1951 to May 1952, my average monthly cost was only $7.84. And from what I've heard, I feel much safer, too, with oil heat in the house."
OIL HEAT COSTS LESS THAN GAS!
SAVE AND BE SAFE
For complete satisfaction buy ONLY from a member of this institute. Phone Executive 0186 for information and name of your nearest dealer
THE OIL HEAT INSTITUTE OF GREATER WASHINGTON
412 FIFTH STREET, N.W. • EXECUTIVE 0186

Sixth I-B-R short Course was conference type Program

A GROUP OF EXPERTS on heating lectured and led discussions at the sixth Short Course in Hot Water and Steam Heating at the University of Illinois, Urbana, Ohio, September 9, 10 and 11. The Short Course was given in cooperation with The Institute of Boiler and Radiator Manufacturers, New York, N. Y.

Topics and speakers for the September 9 morning and afternoon sessions were:

"Heating and Ventilating Load Calculations," with Prof. R. J. Martin acting as chairman.

"Building Materials and Insulation: Their Effect on Heat Loss and Condensation," discussed by Prof. J. R. Carroll.

"Methods of Evaluating Infiltration and Ventilation Loads," discussed by Prof. S. Konzo.

"Heating Elements for Hot Water and Steam Heating Systems," with D. W. Stevens serving as chairman.

"Baseboard and Finned Tube Units in Residential, Commercial, and Industrial Applications," was the subject of the talk given by J. D. Pierce.

"Application of Unit Heaters and Ventilators in Industrial and Commercial Buildings," was the subject of Arthur Hubbard.

Chester D. Brownell, former president of the Illinois Master Plumbers' Association, served as chairman of the evening session. The topic of the session was "Estimating Costs for Heating Systems." L. E. Dockstader also addressed the evening session and his subject was "Cost Estimates: The Key to Success."

Topics of the September 10 morning session were: "Boilers, Burners, and Supply of Hot Water," with Frank Gall acting as chairman. "What the I-B-R Boiler Code Means to You" was discussed by M. W. McRae. "Factors in the Selection and Application of Boilers," was discussed by John W. Hall. Edward F. Ford spoke on "Supplying Hot Water for Industrial and Commercial Uses."

"Traps, Specialties and Controls," with Clarence M. Burnam acting as chairman started the afternoon meeting. "Use, Application and Selection of Steam Traps" was discussed by B. B. Harter. A. O. Roach talked

Slated for a Great Future

Chrysler Airtemp Comfort Zone

It's easy to sell home heating equipment when you handle the Chrysler Airtemp Comfort Zone line. Prospects are pre-sold on the extra value in Chrysler Airtemp equipment. They know that no other manufacturer has a name that carries the prestige and public acceptance of Chrysler Corporation. And they are already acquainted with Chrysler Airtemp products through advertisements appearing in the nation's most popular magazines, for Chrysler Airtemp is the industry's most consistent national advertiser. They also know that Chrysler Airtemp first made cooling equipment tailored to the homeowners needs, thus opening up a two-fold market for you to sell the year-'round. Yes, Sir, you're slated for a great future when you sign up with Chrysler Airtemp. So, don't delay. Mail coupon today.

Airtemp Division of Chrysler Corporation FO & OH-9-52
P.O. Box 1037, Dayton 1, Ohio

I would like to know more about Chrysler Airtemp's franchise arrangements.

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about "Condensate Return Systems and Air Venting." John W. James discussed "Safety Devices for Hot Water and Steam Boilers." "Controls for Hot Water and Steam Systems" was discussed by Charles H. Burkhardt.

A banquet was held Wednesday evening, September 10, at the Urbana Lincoln Hotel in Urbana. R. Edwin Moore, Bell & Gossett Co., delivered an address on "The Future of Hot Water and Steam Heating." Moore shared the keynote spot with R. E. Ferry who discussed "I-B-R and the Heating Industry."

The topics of the September 11 morning session were: "Panel Heating and Snow Removal," with Prof. W. S. Harris serving as chairman. "Field Practice in Panel Heating," discussed by Doremus L. Mills. Frank Park spoke on "Snow Removal Systems." E. L. Sartain discussed "Research on Panel Heating at the University of Illinois."

N. A. Parker presided at the luncheon session Thursday, September 11, at Latzer Hall, University YMCA. Prof. Martin discussed "Heating Research at the University of Illinois." Presentation of certificates were made by R. K. Newton.

OHOT members gather at annual Outing

THE ANNUAL OUTING of Oil Heat Old Timers, Inc., Long Island City 1, N. Y., took place on August 14 at the Huntington Crescent Club, Huntington, L. I. A representative turnout enjoyed a beautiful day of sunshine.

Golf, softball, swimming and elbow bending were participated in by those who were so inclined and all joined for lunch and dinner. A happy situation prevailed when it was discovered that there were almost enough prizes to provide one for each person in attendance.

Old Timers' Jamboree commemorated in Album

THE 1952 JAMBOREE of the Old Timers Club of the Oil Burner Industry, Inc., has been commemorated in a picture Album that has been mailed to members. H. A. Maccubbin, secretary of the group, who prepared the booklet, selected 72 representative photographs that show most of the 300 who attended the Jamboree during the oil-burner show in Philadelphia last April.

The inside cover of the 16-page Album presents a resumé of the April 15 gathering, which was the best attended of any Jamboree held in recent years. The picture record, compiled at the expense of much care and hard work, is a fitting remembrance of the festivities for those who attended and demonstrates, in some measure, what was missed by those who were not there.

Milwaukee Oil Men's Club hears Inspector of Police

THE MILWAUKEE OIL MEN'S CLUB, Milwaukee 2, Wis., held a luncheon-meeting, September 8, at the Hotel Wisconsin and had as guest speaker Hubert T. Dax, Inspector of Police, Milwaukee Police Department, who discussed the subjects, "Can Employees Be Trusted In These Days Of Inflation?" and "How The Oil Companies Can Cooperate For Civil Defense!"

VECO TROUBLE FREE Complete Combustion Testing

New-Revolutionary

CO_2 Analyzing Elements

(Sealed in Glass)

SINGLE METER — All readings on one dial Constant accuracy in service use.

3 IN 1 OPERATION

CO_2 INDICATOR
STACK THERMOMETER
DRAFT GAUGE

COMPACT PORTABLE Weighs only 7 pounds

Trouble Free—Simple to Operate
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Ideal for testing to F.H.A. requirements

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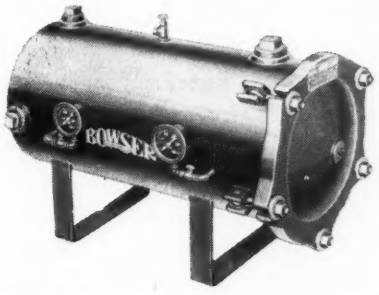
THE PROVED WAY TO INCREASE SALES AND PROFITS

FILTER YOUR PRODUCT AND SELL MORE OIL WITH . . .

BOWSER
Fuel Oil Filters

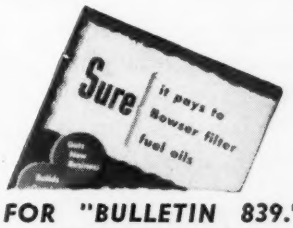
Because clean oil improves burner performance, customers PREFER Bowser-filtered oil. You can keep satisfied customers, close contracts quicker, get NEW BUSINESS and reduce service costs—and you can do it at a cost per gallon that is practically nil!



Bowser Fuel Oil Filters are available for truck mounting (above) or for bulk plant installation (right). Replaceable filter cartridges remove micronically small particles and condensed moisture.

HERE'S PROOF!

Read the statements by typical dealers who increased sales and profits with Bowser Filters . . .



WRITE FOR "BULLETIN 839." IT TELLS HOW OTHERS DO IT.

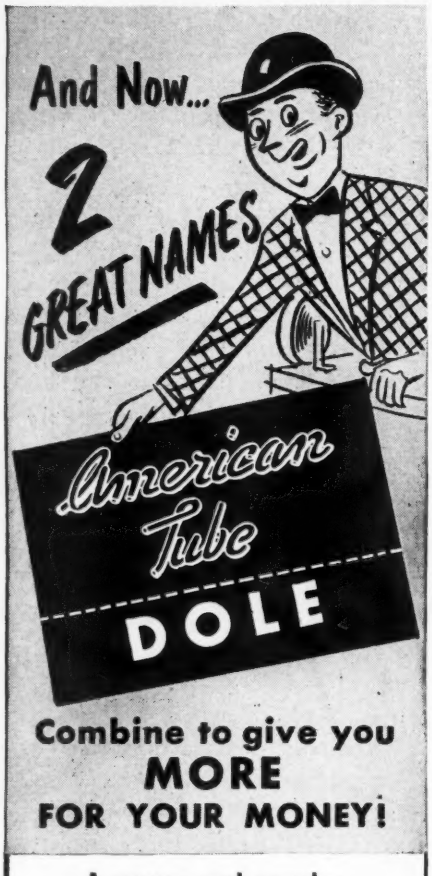
MERCHANDISING FOLDER

This folder, available to users, has helped many dealers sell more fuel oil . . .

BOWSER ESTABLISHED 1885

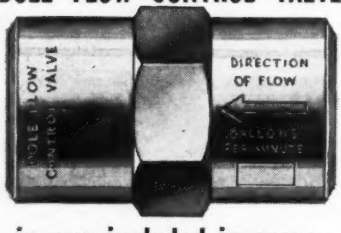
BOWSER, INC., 1330 CREIGHTON AVE., FORT WAYNE 2, INDIANA

MAKERS OF TIME-PROVED XACTO METERS

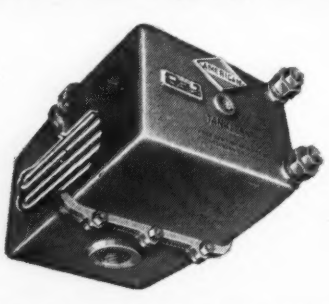


Combine to give you
MORE
FOR YOUR MONEY!

A proven and popular
DOLE FLOW CONTROL VALVE



is now included in every
AMERICAN TUBE TANKLESS PACKAGE



WITH NO INCREASE IN PRICE!

Every customer satisfied means
MORE BUSINESS FOR YOU!

SPECIFY AMERICAN TUBE TANKLESS

American Tube Products
Incorporated
RIVERDALE BLDG., NATICK, RHODE ISLAND

Heating Wholesalers plan first national Convention

ADMIRAL BEN MOREELL, chairman of the board, Jones & Laughlin Steel Corp., will be the principal speaker at the First National Convention of the American Institute of Wholesale Plumbing & Heating Supply Associations, Inc., Washington, D. C., to be held October 19 through 22, at the Chalfonte-Haddon Hall, Atlantic City, N. J. Admiral Moreell has an international reputation, not only as a great industrialist, but also as a great organizer. It was he, during World War II, who organized the Navy "Seabees."

Other speakers slated to address the group are Frank W. Cortright, executive vice-president, National Association of Home Builders, Washington, D. C., who will cover subjects of vital importance to plumbing and heating wholesalers; Joe W. Pitts, president, Brown-Roberts Hardware & Supply Co., Alexandria, La., and a director of the American Institute who will address the convention on "The Relationship between Manufacturer and Wholesaler," and Hermon W. Steinkraus, president, Bridgeport Brass Co., Bridgeport, Conn. and a past-president, United States Chamber of Commerce, who will acknowledge the introductions of the presidents of the steel, brass pipe and copper tube manufacturing companies who will be guests of honor at the Convention.

More than 1100 persons have already paid their advance registration fee reports George T. Underwood, executive secretary of the American Institute. The deadline for inclusion in the Official Program Listing is September 22. People who plan to attend this convention are urged to register before this date to facilitate the general planning of the convention.

Times of convention highlights as released by the American Institute are:

Sunday, October 19: Registration.

Monday, October 20: (Morning) Separate meetings of the Directors of each Member Association.

(Afternoon) Separate meetings of members of Member Associations, with programs of interest to each particular Association.

Tuesday, October 21: (Morning) A closed meeting of all members of Member Associations of the American Institute for the presentation of subjects of vital interest to every wholesaler.

(Afternoon) Free time for visiting between wholesalers and manufacturers.

Wednesday, October 22: (Morning) Open meeting for members and guests in auditorium of Steel Pier. Introduction of presidents of Steel, Brass Pipe and Copper Tube and Enamelware and Pottery manufacturers.

Other outstanding speakers on topics of timely interest.

Greetings from Gelder V. Lewis, president, National Association of Master Plumbers, and W. W. Murray, Jr., president, Heating, Piping and Air Conditioning Contractors National Association.

N. Y. fueloil Dealers hold second Meeting

A GROUP of independent fueloil retail dealers from Brooklyn and Queens held its second meeting on August 18 at the Hotel Granada, Brooklyn, following an organization meeting that took place on July 28. Arthur Cohen, Majestic Fuel Co., acted as chairman and Joseph Scovell, Paramount Fuel Oil Co., was secretary.

Guest speaker was Fred Burroughs, national secretary, Distribution Division, Oil-Heat Institute of America, Inc., who explained the value of organization and traced the progress of recent negotiations with the Office of Price Administration. Burroughs suggested that the newly-formed organization might render valuable service to its members in helping them to present uniform and accurate data to OPS in their quest for fueloil price adjustments.

The group is mapping out an ambitious long-range program, including active opposition, where necessary, to legislation that would impose unfair or restrictive burdens on fueloil dealers. Harry Kerner is executive secretary of the group, which has applied for a charter. Kerner invites inquiries from interested independent fueloil dealers in Brooklyn and Queens, N. Y. He may be addressed at Belt Parkway and Bay 38th St., Brooklyn 14, N. Y.

New Oil Boiler

for added business

Mueller Climatrol

Casting for intermediate boiler section. Staggered turbulator fins in vertical flue ways swirl rising flue gases for faster, more efficient heat transfer.

with Outstanding Design Features

- Wide size range for steam, hot water, and hot water supply — inputs of 240,000 Btu to 560,000 Btu. Staggered fins in flue ways turbulate rising gases for greater heat transfer.
- Precision-machined nipple ports and gas-tight vertical flue passages.
- Modern, attractive styling. Easily cleaned from the top without removing casing. Enclosed controls. Casing can be assembled to boiler after boiler is installed and piped.
- Triple tested. Assembled at factory for hydrostatic testing at high pressure and for correct fit. Knocked down for shipment. Conforms to A.S.M.E. code.
- Equipped with Mueller's efficient oil burner which provides efficient combustion, trouble-free operation. A sturdy burner — quiet, vibrationless.

Here it is — an oil-fired boiler with the same superb quality, easy installation features, and money-saving efficiency as the Mueller Climatrol gas-fired boilers.

It's the new Type 35 for steam or hot water; heavy cast iron, sectional, wet nipple boiler — available with tankless heater or can be used for direct hot water supply.

The Type 35 is in a special size range for those larger residential jobs, apartments, small factories, stores — in fact any installation requiring from 240,000 to 560,000 Btu input.

Because the Type 35 is easily converted to gas, it is a perfect answer for areas where people want gas but gas is not now available. Because it is shipped "knocked down", it is easy to get in any basement. Because it has been assembled and "triple tested", you are sure of a low cost installation and long life satisfaction.

Get complete details on the new Mueller oil boiler now. Use the Type 35 on your next job — convince yourself that the Type 35 is a better boiler.

Get the whole story. Mail Coupon TODAY!

L. J. Mueller Furnace Company
2050-R W. Oklahoma Avenue, Milwaukee 15, Wisconsin

Send me facts and figures — including complete specifications — on your new Type 35 oil-fired boiler.

NAME.....

COMPANY.....

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CITY.....STATE.....

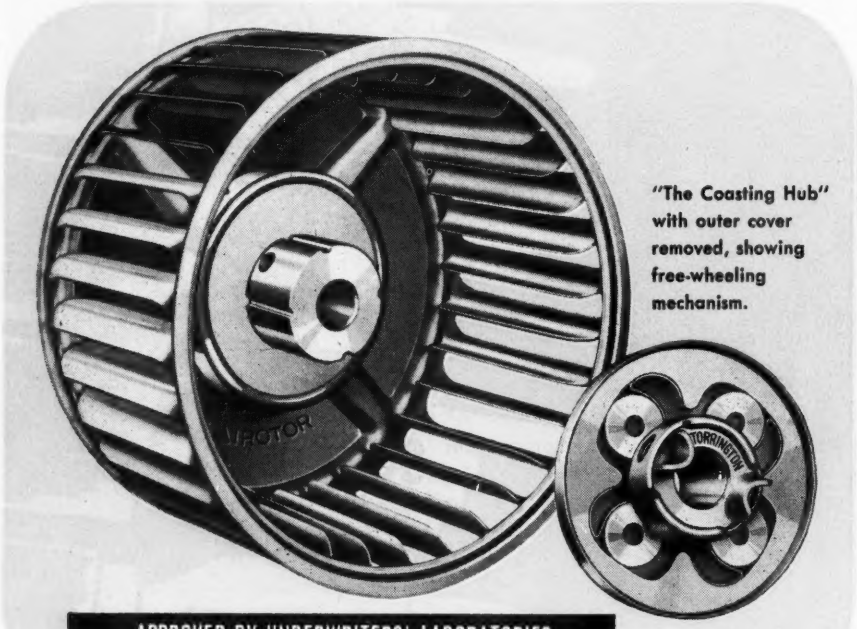
E-53

95th Anniversary

Mueller Climatrol

FOR GAS ★ FOR OIL ★ FOR COAL

TORRINGTON'S *Coasting Hub*
SOLVES THE "AFTER-FIRE" PROBLEM



"The Coasting Hub" with outer cover removed, showing free-wheeling mechanism.

APPROVED BY UNDERWRITERS' LABORATORIES

- Maintains air supply until fire burns out clean!
- Eliminates customer complaints of soot, smoke and shudder!
- Reduces fouling of electrodes!
- Requires no electrical work to install!
- Goes anywhere a standard wheel is used!
- Fits any standard shaft extension!
- Furnished to drive Lovejoy, Guardian and Flexco couplings!
- Provides new, clinching sales appeal at low cost!
- Every oil burner owner is a natural replacement prospect!
- Built to last a lifetime!

For complete information on the Fan with the Coasting Hub write Torrington today . . .

The TORRINGTON MANUFACTURING COMPANY
TORRINGTON, CONNECTICUT

Warm Air Group's Program for Convention taking Shape

THE 39TH ANNUAL CONVENTION of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, O., will be held December 3 and 4, 1952, at the Sheraton-Gibson Hotel in Cincinnati, O.

A number of speakers in the field of warm air heating already have been procured to discuss contemporary subjects relating to the industry. Among the guest speakers are: W. D. Redrup, president of the Association and chairman of the board, The Majestic Co., who will discuss developments within the Association; Arthur Goldman, market research director, *Magazine of Building,* who will speak on "Marketing Opportunities in Summer Air Conditioning and Open-End Mortgages"; and Fred R. Green, president, Des Moines Furnace and Stove Repair Co., and president, National Heating Wholesalers' Association, who will discuss the "Selling and Sales Promotion in the Warm Air Heating Industry."

Other speakers include: Alan E. Brockbank, president, National Association of Home Builders, who will talk on "Home Building Future and Its Relation to Warm Air Heating," and Jack Stowell, a dealer from Aurora, Illinois, who will talk on "Sales Promotion at the Dealer Level."

One of the features of the convention will be a presentation by the Publicity and Merchandising Committee on the work being done in consumer and trade publicity. This will show how the Publicity Department of the Association has materially increased acceptance by the consumer of warm air heating. It will also point out that more publicity on the part of the entire industry is a "must" next year.

Progress reports of the various investigations being conducted at the University of Illinois will be presented by University personnel. These reports will include the results of the investigation of summer cooling and the small pipe system which has also been installed in Research Residence #2.

A luncheon has been scheduled for each day and a cocktail party will be given the first day.

Revolutionary NEW heat control

for space heaters eliminates wiring and thermostats

They'll sell like hot cakes to owners of space heaters listed below

At last! An automatic heat control that can be attached to oil burning space heaters in only a few minutes! More, it's priced at an attractive low cost that every owner can afford.

For "round-the-clock" space heating comfort, there's nothing like this new A-P Comfort Control. It provides all the luxury of automatic, dial-controlled heat, exactly matched to any of the space heaters listed at right. Customers save fuel and enjoy the heat they select, with no peaks, no valleys. And it's so easy to install. Attaches with an ordinary screwdriver. Only two screws to tighten.

Cash in on the big season ahead with this extra-profit builder. Every space-heater owner or customer will want it, once you demonstrate its many advantages. Write today for full details.

This great new merchandising campaign helps you sell space heaters

Complete Profit-Maker kit is yours for the asking. Displays, stickers, folders, ad mats — everything you need to sell this great accessory. Send for your Profit-Maker kit *today!*

Easily installed on any of these famous brands

ALLEN'S
BARNES
BENNER-NAWMAN
BEYER
COLE HOT BLAST
COLEMAN
COLEMAN (Canada)
CREST (Canada)
CREST-AIRE (Canada)
CUSTOM AIRE
DOMESTIC
DRACO FIREBALL
DUO-THERM
ENTERPRISE
ENTERPRISE (Canada)
ESTATE HEATROLA
EVANS
EVEN-TEMP
FAWCETT TORRID-OIL (Canada)
FESS (Canada)
FINDLAY (Canada)
FLOOR-O-LATOR
FLORENCE
GILLEN
H. C. LITTLE
HERCO HEAT FLO (Canada)
INTERNATIONAL
JUNGERS
KEMAC (Canada)
KLEER-KLEEN
LACO
LONERGAN
MAGIC CHEF
MARCHAND (Canada)
MONARCH
MONARCH (Canada)
MONOGRAM
NESCO
NORGE HEAT
ORAN
PERFECTION
PREWAY
QUAKER
QUAKER (Canada)
SAFEWAY
SCOTSMAN
SIEGLER
SILENT FLAME
SUPERFLAME
THARRINGTON
THERMO-PRODUCTS
TORRIDAIRE
VIKIMATIC
WASHINGTON FRUGAL

A-P CONTROLS CORPORATION

(formerly Automatic Products Company)

2458 N. 32nd Street, Milwaukee 45, Wis. • *In Canada:* A-P Controls Corporation Ltd., Cooksville, Ont.

Manufacturers' Activities

Aid to burner Servicing developed by Green Colonial

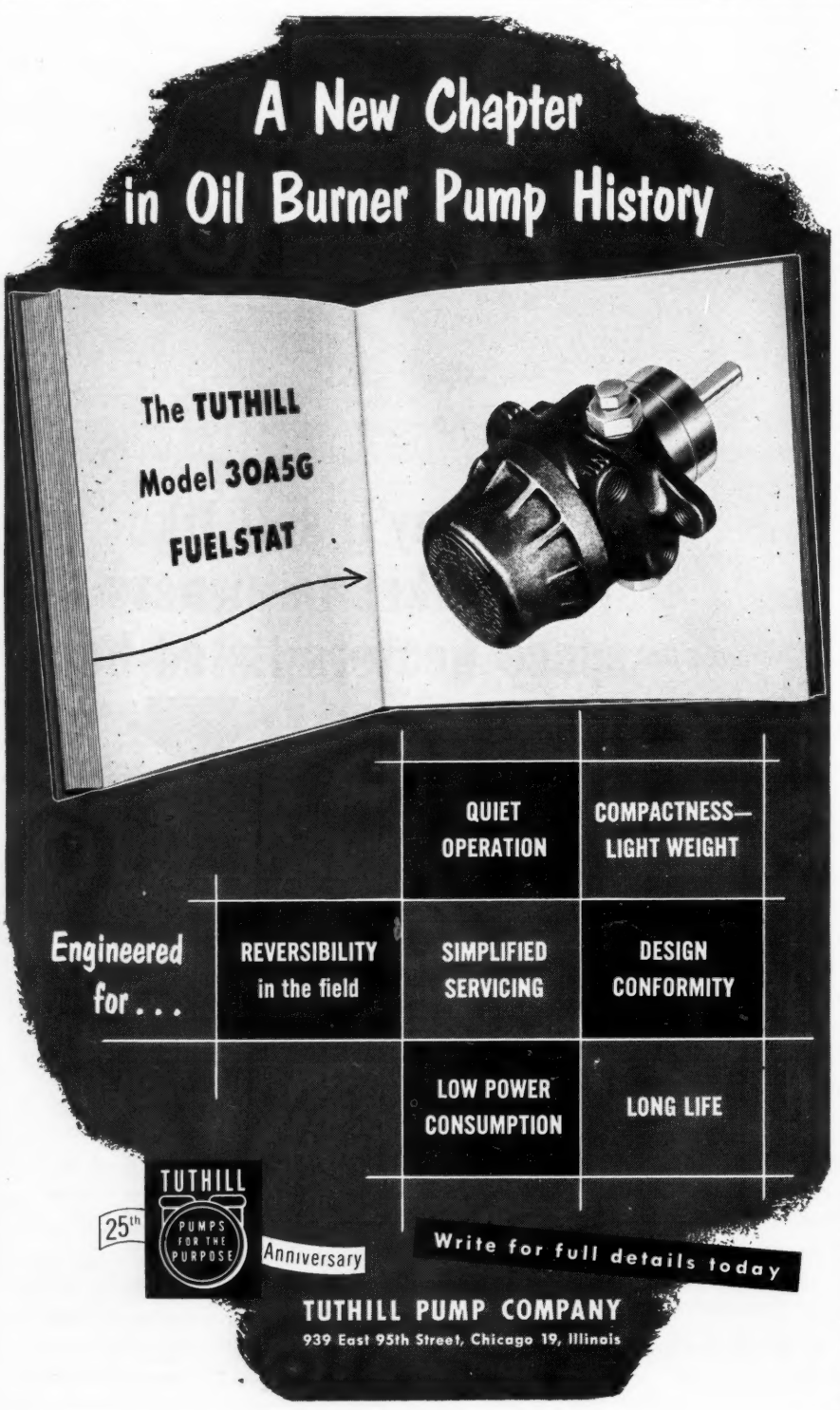
THE ENGINEERING DEPT., Green Colonial Furnace Co., Des Moines, Ia., has prepared a visual pocket size guide that quickly gives 113 causes and remedies for 20 of the most common gun type oilburner service problems.

The guide, printed on heavy card stock, measures 5" x 7½". On the left hand side of the front and back cover is listed the following oilburner complaints:

Burner combustion lead out of adjustment; burner pulsates on end of run only; burner pulsates on start of run only; oil odors in the home; burner gives off offensive odors or gases; burner runs are too long and overshoots thermostat; burner runs are too short and undershoots thermostat; explosions; stack switch locks out; oilburner controls short cycle; fire burns back in head; smokey fire; pump looses prime; radio or television interference; high stack temperatures; dirty registers and walls; stack switch fails to pull in; low CO_2; noisy unit operation; carbon forms on combustion head.

By moving the arrow on the inside card of the graphic form to the complaint indicated, the various causes and remedies automatically appear.

The Green Colonial Furnace Co., who is offering this guide to oilburner servicemen, for $1.00, says it is a valuable time saver on service calls for it increases the amount of work a serviceman can accomplish in any given period of time; it will reduce call backs, and will enable servicemen to be sure necessary materials are taken on the first trip.



Mercoid publishes Handbook on its oilburner Controls

MERCOID CORP., Chicago 41, Ill., has just published a 48-page Oil Burner Controls Handbook which gives control wiring diagrams, installation instructions and service hints. This handbook is being made available to the heating industry without charge.

An important feature of the handbook is the type number of Mercoid Control Index. It lists the type number, page where installation instructions can be found, and page giving descriptive service hints.

Another feature is the comparison charts of competitive controls covering the following: Room Thermostats (Low Voltage); Room Thermostats (Line Voltage); Primary Controls; Warm Air Controls; Limit & Operating Controls; Pressure Controls; Low Water Controls; Transformer-Relays; Gas Valves & Safety Pilots and Stoker Primary Controls.

Perfection builds test Lab to reach 90 below Zero F.

ONE OF THE COLDEST SPOTS in the nation right now is in the 60 x 60 foot Polar laboratory built by Perfection Stove Co. in their home city of Cleveland, O.

In this Polar laboratory, Perfection engineers and technicians are currently working in temperatures ranging

41%*

OF WINKLER LP* BURNERS ARE PRE-SOLD THROUGH OWNERS' RECOMMENDATIONS

GOOD NEWS TRAVELS FAST!

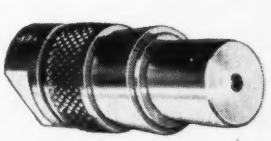
A recent survey proves that Winkler dealers profit from a huge force of *unpaid salesmen!* These are owners so delighted with Winkler LP Burner performance that they urge friends to buy.

That's why the Winkler franchise is like a rolling snowball—producing increasing profits, year after year. *It is a growing asset.*

This owner enthusiasm for Winkler Products is not surprising . . . because Winkler makes *quality* heating equipment. The development and production of this equipment is not secondary to some other phase of the company's business. *Heating equipment is our lifeline, not a sideline!*

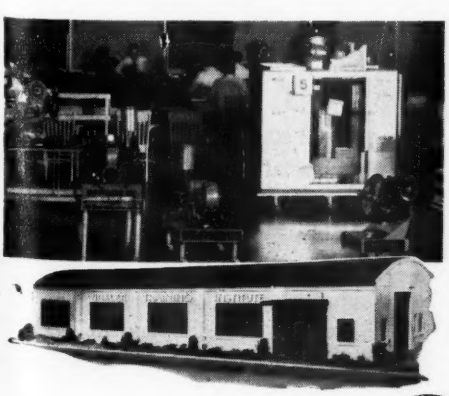
Remember, too, that the Winkler line of furnaces, boilers, stokers, oil and gas burners is now so comprehensive that virtually every type of buyer is a prospect.

Write today for information on how to obtain the Winkler franchise.



CLOG-PROOF NOZZLE
GUARANTEED 10 YEARS!

The Winkler Nozzle ends fuel waste—permits exact sizing of the burner to the heat requirements of the building.



Winkler Institute trains salesmen to make money

The Winkler Training Institute is open to all Winkler dealers and their personnel. Here in the Sales and Engineering Schools, Winkler trainees hear . . . see . . . and actually do the things which assure successful selling and correct application of Winkler Automatic Heating Equipment.

WINKLER

AUTOMATIC HEATING EQUIPMENT

U. S. MACHINE CORPORATION • Dept. H-92, Lebanon, Ind.

fueloil & oilheat

from 70 to 80 degrees below zero. The laboratory temperature, however, can be brought down to as low as 90 degrees below zero F.

Perfection built the cold laboratory, at a cost of $250,000, to test the starting characteristics of internal combustion engines, the characteristics of fuels and lubricants, the metallurgy of metals, the characteristics of materials and the efficiency of heating devices at temperatures ranging from —65 degrees to —85 degrees F.

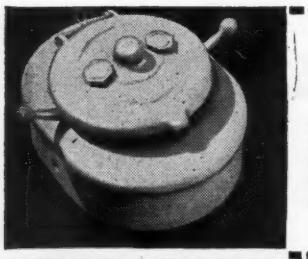
The Polar laboratory duplicates weather conditions in such cold spots as Alaska and Greenland, where the U. S. has established outposts and weather stations for the protection of Northern frontiers. For the past decade, Perfection has been manufacturing engine-heating equipment to permit men and vehicles to operate in such abnormally cold climes.

The intense cold generated inside the laboratory is able to change oils and diesel fuels to solids, cause metals to become brittle, and cause gasoline to extinguish a fire.

FOR QUICK-OPENING, TIGHT-CLOSING, POSITIVE-LOCKING MANHOLES

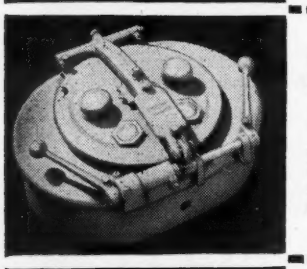
SPECIFY "Manholes by Philadelphia Valve"

no matter who builds your tank trucks



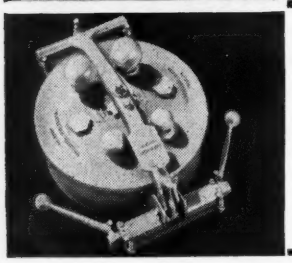
Standard Manhole

Size 12" x 16" with 6½", 8", or 10" fill opening. A slight turn of locking ring opens and closes cover.



Self-Closing Manhole

Size 12" x 16" with 10" fill opening. Self-closing, with positive locking device. Opened by raising lever on either side.



14" Diameter Self-Closing Manhole

For heavy fuel-oil tanks. Self-closing, with positive locking device. To open, lift either lock arm and raise cap.

Write the words "Manholes by Philadelphia Valve" into your order. These quick-opening manholes are absolutely tight. They surpass every fire underwriter's standard. They open and close easily and quickly. They are built to outlast the tank.

Each type of manhole is simple, strong, and foolproof. Covers are leakproof. Covers and plugs are of malleable iron or heat-treated aluminum. No cast iron is used. "5-in-1" vents automatically close if truck upsets, and will release under 6 lbs. pressure to prevent explosion in case of fire. Gaskets are easy to keep tight.

Philadelphia Valve manholes are standard with many major oil companies from coast to coast. Make them standard on *your* tank trucks, too!

Send for catalog 170 for descriptions and engineering drawings of all Philadelphia Valve Company products.

PHILADELPHIA VALVE COMPANY

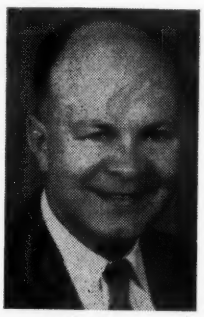
3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, California
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, California

Bill Stuart sells his Interest in Stuart Supply

A. W. (ACE) BARBER has purchased the interest of W. W. (Bill) Stuart in the Stuart Supply, Des Moines, Ia., wholesale distributors of heating, air conditioning, oilburner and refrigeration controls, indicating, recording and weather instruments, Nu-Way and Ray oilburners and accessory equipment. Barber, who was associated with Delavan Mfg. Co. from its beginning in 1937 until early 1950, will devote his time to sales promotion for the firm. Mrs Vi O'Hare will continue in her capacity as manager of the office and accounting departments.



Barber

Staurt Supply is to continue in the wholesale heating and air conditioning supply business, retaining all its present lines with plans under way to add new items. Additional emphasis will be placed upon service to industrial accounts.

Tuthill offers Guide to pump Applications

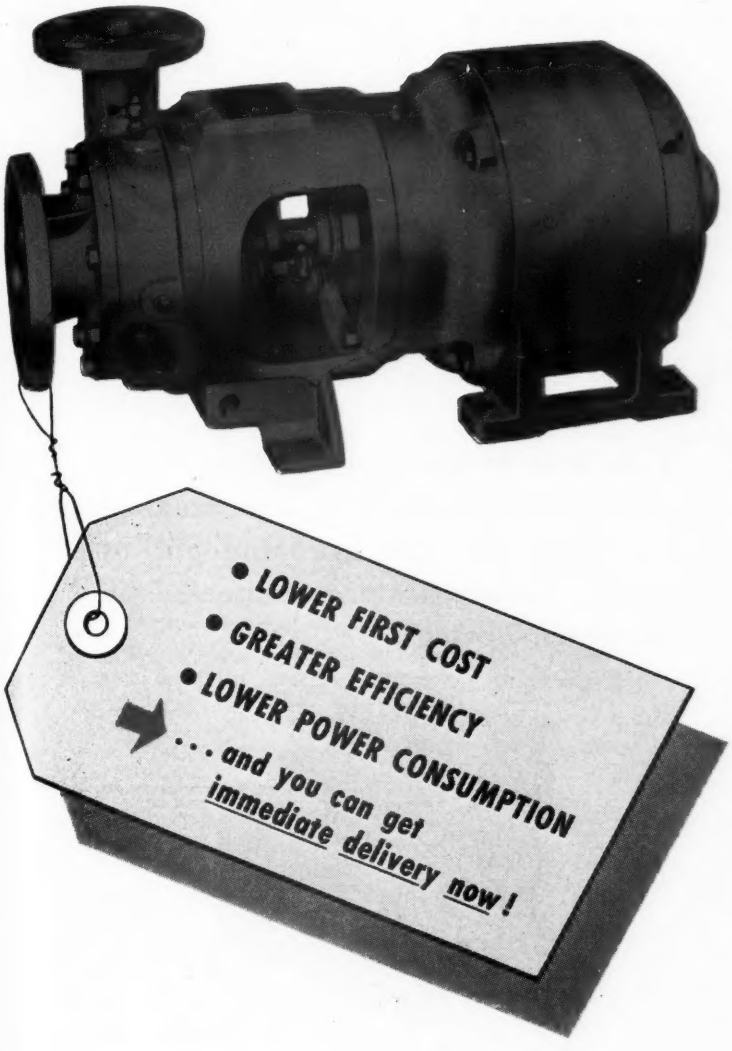
A NEW TYPE OF REFERENCE CHART on small pump applications has just been developed by Tuthill Pump Co., Chicago, Ill.

In one convenient table, printed in two colors, letterhead size, this guide lists the various types of Tuthill pumps, the service for which each is built, the performance characteristics, types of packing, styles of mounting, and features that distinguish each model. Thus, selection of the proper Tuthill pump for the purpose is simplified.

Hev-E-Oil Burner Distributors forms new Company at Chicago

FRANK WYMBS, JR. and Tom Walczak, both associated with the Hev-E-Oil Burner Distributors of New York, have formed the Hev-E-Oil Burner Distributors of Chicago, with offices at 333 Michigan Avenue. The Chicago organization is independent of the New York group and will serve as the

slash fuel oil handling costs



HERE'S HOW IT'S BEING DONE WITH INGERSOLL-RAND MOTORPUMPS FOR FUEL OIL HANDLING

First, you pump the same amount of fuel oil into tanks and trucks with a smaller Ingersoll-Rand Motorpump. Next, you save on first cost and get many operating economies, including lower power consumption. Many fuel oil dealers' records show this to be true.

All this is possible because Ingersoll-Rand has built into this pump, design features found in no other pump on the market. I-R Motorpumps have proved themselves to be the leader in their horsepower range.

To bring down fuel oil handling costs and speed tank and truck loading, decide now to install Ingersoll-Rand Motorpumps. You can get IMMEDIATE DELIVERY from large stocks in a wide range of sizes. Just get in touch with your nearest I-R distributor or representative. INGERSOLL-RAND COMPANY, 11 Broadway, New York 4, New York.

MOTORPUMP

. . . designed for

PETROLEUM MARKETING SERVICE

available in sizes from ¼ to 50 hp.

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y. 792-9

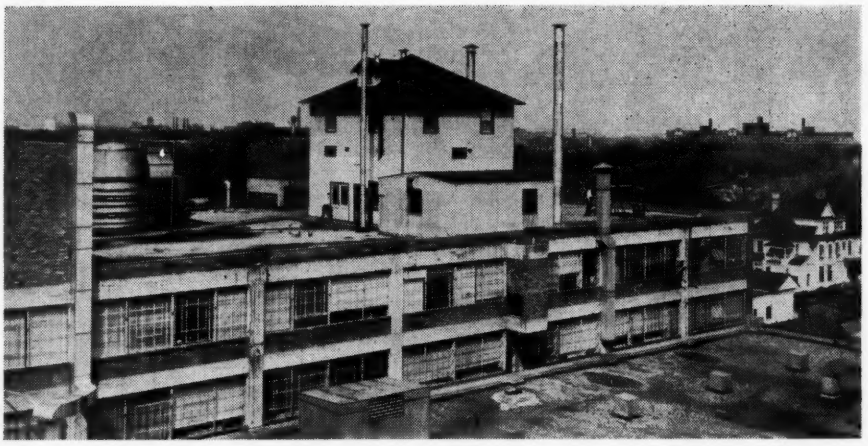
fueloil & oilheat

New York company does as the territorial outlet for Cleaver-Brooks Hev-E-Oil burner equipment.

The Meenan Corp., 5513 North Clark St., has been named by the new group as its distributor on the North side of Chicago. As the South side distributor, Blackhawk Oil Corp., 1020 South Cicero St., has been named.

The Chicago dealers appointed are: Neustadt Fuel Co., 4109 West Lake St.; Hans Jensen and Son, 4903 West Fullerton Ave.; B&W Oil Burner Service, 1304 West Washington Ave.; Marrese Plumbing and Heating Co., 3157 West Augusting Blvd.; Beverley Heating and Appliance Co., 1711 West 95th St.; Reece Backer and Son, 7031 South Wentworth St. and Heritage Heating Co., 101 East 63d St.

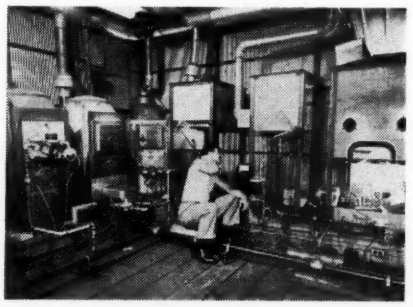
Appointed as the Aurora, Ill. distributor is the J. C. Haried Co. The K & K Co., 12538 Greiner Ave. was named distributor for Detroit. Dealer outlets chosen in Detroit are H. L. Johnson, Inc., 14303 Joy Rd. and Complete Heating Service, 3338 Joy Rd.



M-H builds House on Roof to collect heating Data

AN ARCHITECTURAL ODDITY on the Minneapolis skyline is a two-story house, pictured above, perched on the roof of a six-floor factory building. The factory building and the house both belong to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. M-H engineers put the house there to conduct home heating and air conditioning tests and to record the effects of outside weather and exposure on indoor temperatures.

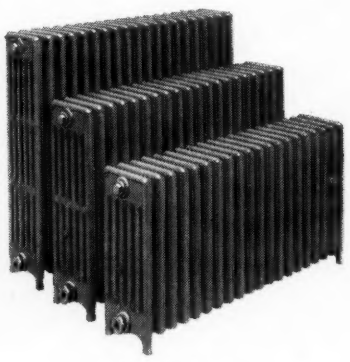
The furnaces in the other photograph are in the "basement" of the house. The furnaces provide a choice of five types of heating.



Depend on Cast Iron!

Cutaway View of Utica '1' Boiler

Cast iron boilers and radiators are not only dependable in performance . . . they are also available out of stock. Inventories are unaffected by the steel shortage.



Utica Radiators

UTICA RADIATOR CORPORATION

UTICA 2, NEW YORK

2 Profit Making reasons why

it's ANCHOR OIL BURNER for you in '52!

1. ANCHOR MODEL SA 5 OIL BURNER with the famous Shell Combustion Head . . . a standout in the complete ANCHOR line of fine heating equipment! Engineered specifically for large commercial and small industrial automatic heating installations. Provides maximum thermal efficiency with fuel oil savings up to 36%! 5 to 10 gph capacity. Compact, sturdy, quiet, safe. All parts easily accessible for quick servicing or adjustment. Backed by more than 80 years engineering and manufacturing experience in the design, development and construction of superior heating equipment. Investigate ANCHOR *today!*

2. ANCHOR'S amazing Dealer Franchise Plan that—believe it or not—WILL HELP PAY YOUR INCOME TAX! It's a fact! As an ANCHOR Franchised Dealer, your purchases of ANCHOR Heating Equipment during the year earn *extra* cash profits for you. Then, at the end of the year, you will receive a check covering these earned dividends. That money is yours—as a cash bonus—to use as you see fit . . . to buy a new car, pay your income tax, take a trip . . . anything you want to do with it. Get the full story about this sensational Dealer Franchise Plan—and find out about the many other ANCHOR advantages! Do it today, *sure!*

the revolutionary dealer FRANCHISE PLAN that helps pay your Income Tax!

WRITE • WIRE • PHONE FOR FULL DETAILS . . . TODAY!

ANCHOR DIVISION

STRATTON & TERSTEGGE CO.

Box 311, New Albany, Indiana

At the recent Brussels International Trade Fair, *the Socma Heating Company of Brussels prominently displayed Williams Oil-O-Matic equipment. The Socma Heating Company is the Williams distributor in Belgium and Luxemburg. Andre H. Godefroi, owner of the Belgium company, recently visited the Eureka Williams factory in Bloomington, Ill.*

R Sure Cure for servicing headaches—
Eddington
OIL BURNER NOZZLES
FACTORY TESTED TO INSURE PERFECT OPERATION!
RIGHT FOR SPRAY ANGLE, ATOMIZATION, AND RATED CAPACITY!
LARGE CAPACITY MONEL STRAINER KEEPS ORIFICE AND SLOTS FROM PLUGGING!
Speed up installations and check-ups— EDDINGTON FLEXIBLE INSPECTION MIRROR
We'll be glad to send you complete information on any Eddington Products. Write today.
Eddington METAL SPECIALTY COMPANY
EDDINGTON • PENNSYLVANIA
Makers of: FILTERS • NOZZLES • VALVES • STABILIZERS
AIR CONES • STRAINERS • INSPECTION MIRRORS
ADAPTORS • SERVICEMEN'S NOZZLE KITS

Ray Oilburners aid in Reconstruction of Norway

RAY OILBURNERS, made by Ray Oil Burner Co., San Francisco 12, Calif., and other machinery and equipment supplied by more than 25 American firms, has enabled reconstruction of a war-devastated Norwegian iron mine into a substantial source of ore for the iron hungry defense industries of the free world.

The reconstruction of the important Bjornevann mine and processing plant of the Sydvananger Iron Ore Company in northern Norway was made possible by some three million dollars worth of American machinery and equipment financed under the Marshall and Mutual Security Programs.

Dominion names Harvey to handle Handy-Kaps

DOMINION PRODUCTS CO., New York 18, N. Y., has named Sid Harvey, Inc., Valley Stream, N. Y., its branches and associated companies, to act as distributors for Handy-Kaps boiler water conditioner.

The Handy-Kaps are capsules filled with a concentrated cleaner and conditioner. The capsules are dropped into the boiler through the safety valve opening of domestic and small boilers.

Visa-Clean announced for cleaning oil storage Tanks

FORMATION of The Visa-Clean Corp., Randallstown, Md., has been announced to market a vacuumatic oil tank cleaner that has undergone four years of tests and actual field use in the cleaning of more than 9,000 oil storage tanks. Talbot A. Smith is president of the company, W. F. McBride is vice-president.

Visa-Clean is a portable unit that can be operated by one man and cleans tanks without interrupting service even

YORK-HEAT billboards are now helping dealers make more money!

TODAY, hundreds of colorful billboards selling York-Heat are posted in the home communities of York-Heat dealers — and each one tells the viewer where he can buy York-Heat. This powerful national advertising at local levels is just one of the tools York-Heat gives its dealers to help them make more money. Send the coupon today for more details on the industry's most valuable franchise.

qualify now for York-Heat's 1953 Billboard Program

mail coupon TODAY for York-Heat Franchise Facts

YORK-SHIPLEY, INC.
DEPARTMENT 9, YORK, PA.

Please send me complete facts on York-Heat's profit-making franchise.

Name .....

Company .....

Address .....

City .....*State*.....

fuel oil & oil heat

when they are full. It runs on ordinary house current and with it Smith estimates that one man can clean 8 tanks a day.

Smith in his announcement cites the increasing number of oilburner service calls caused by clogged nozzles, dirty ignition points and the need for general cleaning. These he sees as not caused by poor quality of fueloil but rather from neglect of sludge, condensate and water that builds up in oil storage tanks. Analysis of field tests has proven that Visa-Clean tanks cut down the incidence of these calls and has led to the endorsement of the equipment by a number of oil companies and dealers.

Richard La Fond Advertising, Inc., New York 17, N. Y., has been named to handle sales promotion and media advertising.

Changes made by Gulf Oil in Eastern sales Division

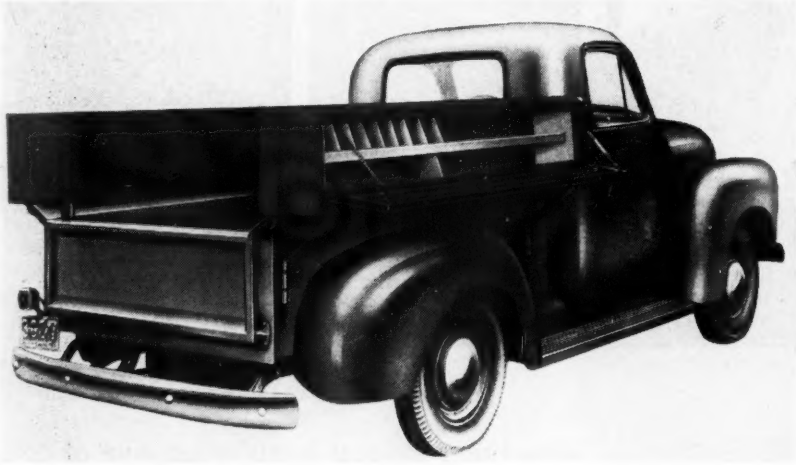
C. W. HEALY, formerly division general manager of the Boston sales division, Gulf Oil Corp., Pittsburgh, Pa., succeeded R. E. Garrett, who retired on August 1st after 41 years' of service, as division general manager of the Philadelphia sales division. D. R. Ferris, formerly manager of retail sales, Boston, succeeds Healey.

Healy joined Gulf in 1919 as a salesman in the Philadelphia area. He progressed through various sales positions and in 1932 was made assistant division manager at Philadelphia under Garrett. Two years later Healy transferred to Louisville as division manager and served in that capacity until 1950, when he was made division general manager for the Boston sales division, responsible for the sale of company products in New England.

Ferris joined Gulf in 1938 as a salesman. After service with the U. S. Air Force as a Lieutenant Colonel in World War II, he rejoined Gulf in the Boston office as a co-ordinator for lessor built station operations. In 1946 Ferris was made assistant division manager for the Boston sales office, and in 1949, manager of retail sales.

now!

CONVERT YOUR PICK-UP



...TO A MODERN SERVICE TRUCK!

It's easy. It's quick — COSTS LESS THAN YOU THINK. CRAFTSMAN Side Boxes give you "carrying space" for your Tools, Parts, Supplies, Equipment. Anyone can mount them. Bolts and brackets furnished. They're all-steel, welded, weather-tight — built to outlast your truck! 75", 85" and 96" lengths fit ALL Pick-Up-Trucks — ½-ton, ¾-ton and 1-ton models. Available with Pipe Carrier Brackets, Ladder Racks, etc.

WRITE NOW FOR PRICES AND SPECIFICATIONS

STAHL METAL PRODUCTS, Inc.

3490 West 140th Street • Cleveland 11, Ohio

Phone: Winton 1-2377

New Webber Catalog available to the Trade

THE A. R. WEBBER CO., New Haven, Conn., has announced that its new 108-page, 1952-1953 catalog, especially for the heating and oilburner trade, is now ready for distribution. The catalog is completely priced and fully illustrated throughout. The Webber catalog may be obtained without charge by writing to A. R. Webber Co., Inc., Dept. 10, New Haven, Conn.

Thermobloc has new Catalog featuring its various Models

THERMOBLOC DIV., Prat-Daniel Corp., South Norwalk, Conn., has issued a new general catalog, printed in two colors, featuring a full-color cutaway illustration of a Thermobloc direct-fired heating unit.

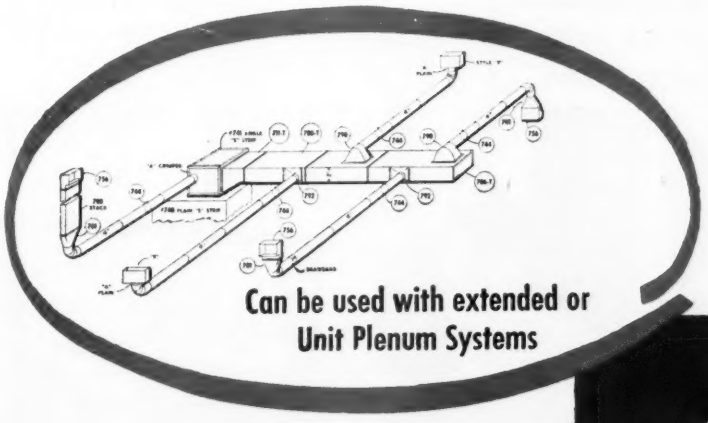
Various models manufactured by the company are illustrated, both photographically and with line drawings.

Specifications and dimensions on all models are listed.

The New Lamneck Simplenic PIPE

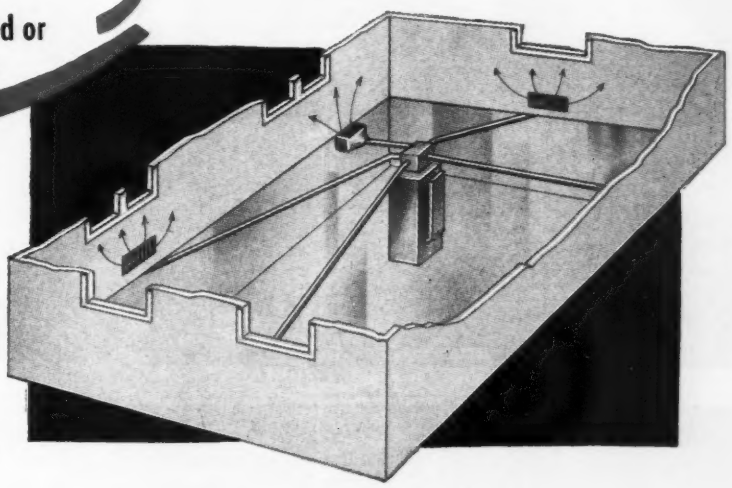
Now available in 10′ lengths . . .

10 FEET



Can be used with extended or Unit Plenum Systems

Extra long-length pipe to further cut installation costs of the new Lamneck 4″ perimeter-type heating system.



Lamneck 4″ perimeter-type duct cuts costs, lowers space requirements, offers ease of installation, circulates air continuously, and brings to the home the most ideal heating conditions ever known.

Look to Lamneck for Leadership

Simplenic SYSTEM *T.M.

Lamneck FURNACE PIPE & FITTINGS

CLAYTON & LAMBERT MFG. CO.

1701 Dixie Highway

LOUISVILLE 10, KENTUCKY

fueloil & oilheat

COMMERCIAL & INDUSTRIAL oilburning

Growth of an industrial oilburner Dealer

Mid-West Heat Service started by two Men in 1931, now has 100 on Payroll

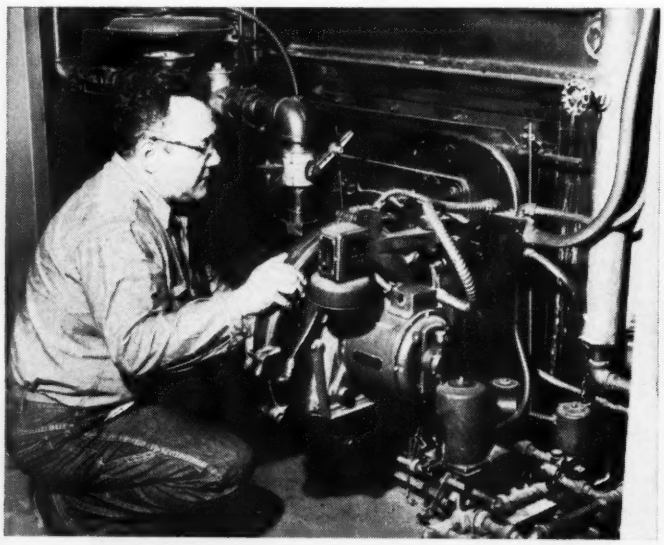
by
Jean L. Dupuis

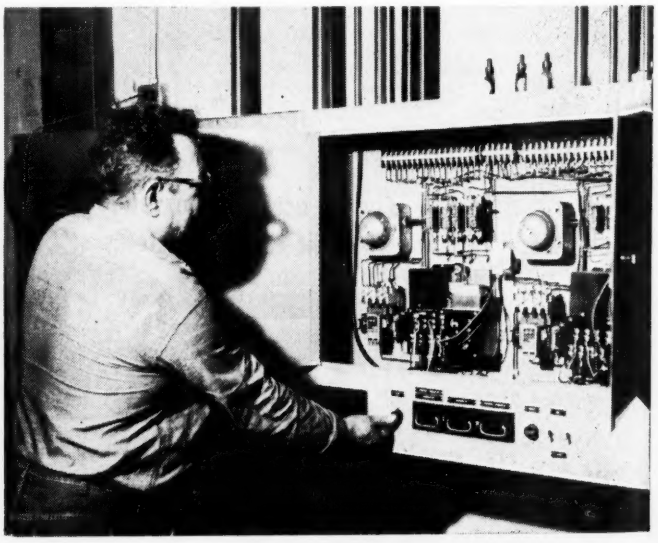
IN 1931, lunch time for Paul R. Unger and Erwin W. Mautner of Chicago often meant leaving a new oilburner installation for 15 minutes to grab off a cup of coffee and a piece of apple pie. That's the way they explain it today. Times were lean and these two commercial-industrial oilburner specialists were very busy. They had just started their own dealer organization on July 1st, 1931. They had quit their jobs and gone into business for themselves.

The new two-man company was named the Mid-West Heat Service after the Mid-West horizontal rotary cup burner, well known to old-timers, which the company sold when it started. However in 1932 the company started selling Todd equipment.

The first year of its existence, Mid-West succeeded in signing up about $40,000 worth of business in Chicago. It sold commercial and industrial burners for new jobs and conversion jobs. That Paul Unger and Erwin Mautner could handle sales, installation, and service problems is obvious today. A study of their organization today brings out the point that it was built up mainly on solid bedrock of technical know-how. Mid-West Heat Service grew big from 1931 to 1952 because in the field of commercial-industrial burners this company certainly knew what it was doing!

Just how big can a two-man oilburner business started in 1931 become by 1952? Here's an idea of the growth. In June, 1952, this company had 80 to 100 jobs in process of installation. The oilburners involved were Todd horizontal rotary cup type for from 15 to 250 gph, and Todd Vee-Cee pressure atomizing type and Todd



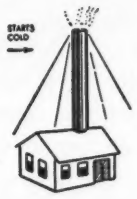


Upper left: *This Todd horizontal rotary burner is part of a typical apartment house oil-gas installation made by Mid-West Heat Service. There are two boilers and both were set up by Mid-West to use either oil or gas. Last summer, one used gas, purchased at give-away prices, for water heating. Heavy oil serves for the regular heating load in winter.*

Lower left: *The superintendent of the apartment house takes a look at his recorder and draft gages which were installed by the burner dealer. Instrumentation is an increasingly important part of such installations.*

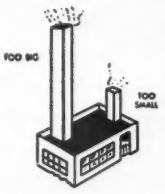
Upper right: *On-the-job version of one of the control panels which Mid-West Heat Service provides for its typical installations. This serves the oil-gas installation of the apartment house. To accomplish its objectives, Mid-West uses equipment made by many specialty manufacturers in building up a panel of this type. This dealer buys specialty devices made by Ace, Bailey, Cash, Cleveland Fuel Equipment, Hays, Hagen, and Republic.*

SIX CAUSES OF POOR CHIMNEY DRAFT



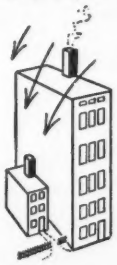
1. **COLD STACK GIVES NO DRAFT**
When chimney has become chilled, furnace has no draft when it is started up.

2. **WRONG SIZE CHIMNEY**
Boilers of different sizes need chimneys of different sizes.



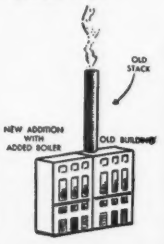
3. **TOPOGRAPHY AND WIND COMPLICATIONS**
Chimneys near mountains or cliffs give reverse draft when wind is wrong way.

4. **TALL BUILDING NEARBY GIVES DOWN DRAFT**
The same thing happens when a chimney is blanketed by a large building nearby.

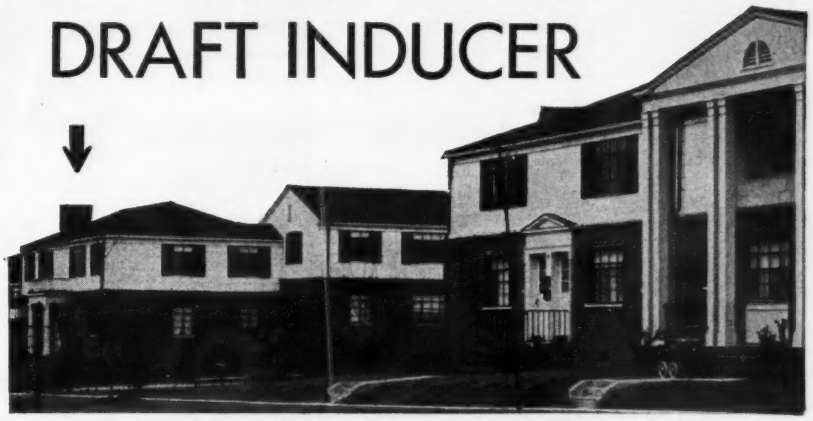


5. **AIRFIELD OR OVERHEAD HIGH TENSION WIRES**
Chimneys must be low near airfields or under high tension wires.

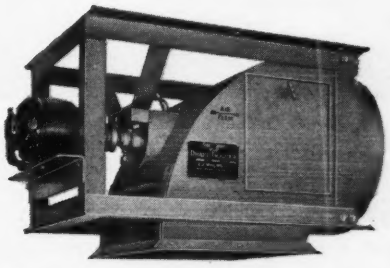
6. **BOILER CAPACITY INCREASED**
Where boiler capacity is increased with same stack, draft inducers must be installed to insure adequate draft.



Motorized Chimney Draft with the WING DRAFT INDUCER



SOLVES THE PROBLEM OF ADEQUATE DRAFT REGARDLESS OF WIND, WEATHER OR LOCATION AND WITHOUT TALL, UNSIGHTLY, COSTLY STACKS



NOW you need not worry about draft difficulties. The WING Draft Inducer permits operating at high efficiencies without regard to weather conditions. Thorough and complete combustion is assured with high CO_2 content. Smoke is reduced or eliminated. Fuel costs are cut. Learn the facts about motorized chimney draft. Use the coupon.

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Name.....

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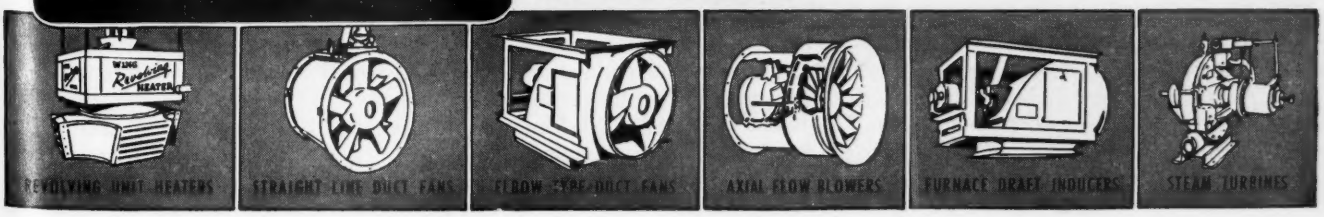
Wing DRAFT INDUCER



steam atomizing type for up to 700 gph per burner. The jobs being completed in June included 16 housing projects and apartment houses, for example, six hospitals, and 17 schools.

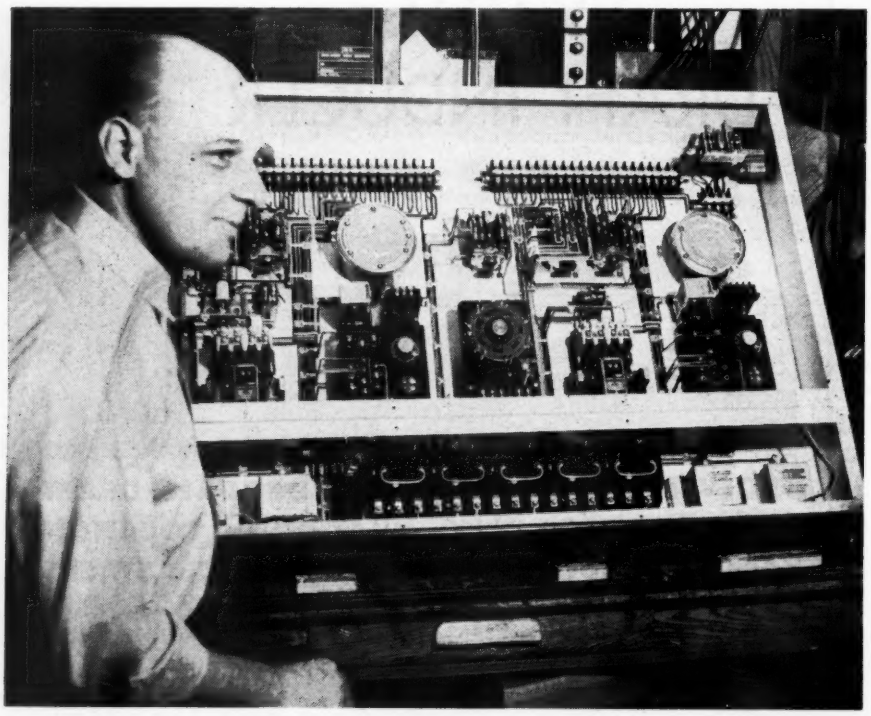
The personnel of Mid-West Heat Service now includes 100 employees, 14 of them graduate engineers, and 12 of them foremen described as being able and ready to go anywhere to handle all the details of any kind of a big oilburner job. These personnel figures are round numbers; they vary somewhat.

Experts working at the headquarters and shop of Mid-West Heat Service prepare much of the commercial-industrial burner equipment in advance, the idea being to do much of the highly specialized work beforehand in the shop instead of doing it on the job.

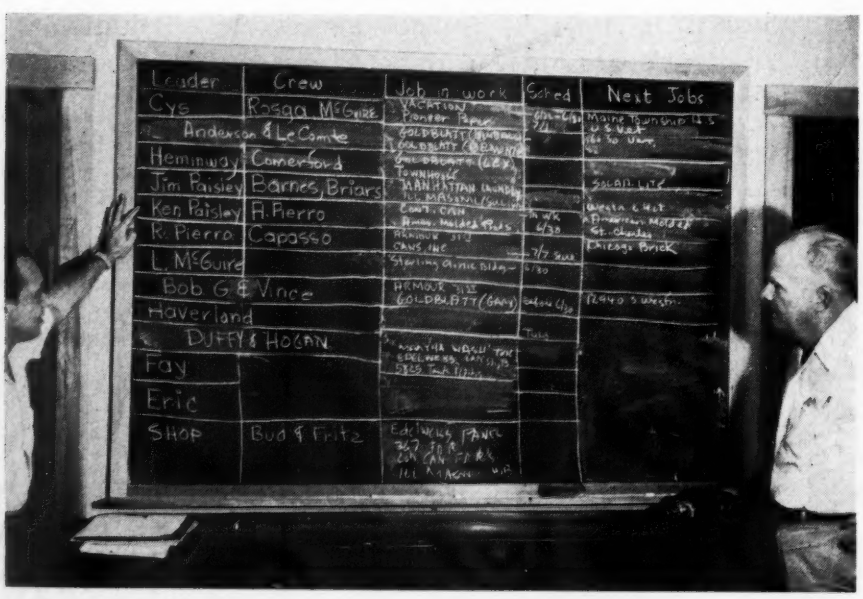
Beautiful control panels, which to oilburner enthusiasts are works of art, are assembled and completely wired in the shop. The accompanying photographs tell the story of this part of Mid-West's activities.

Pump sets for heavy oil and everything that goes with them, including strainers, oil temperature regulators, traps, piping, and oil heaters, also are assembled in the shop. A complete pump set and oil-handling unit of this type was sent to Mexico, to the Mexican Power and Light Company.

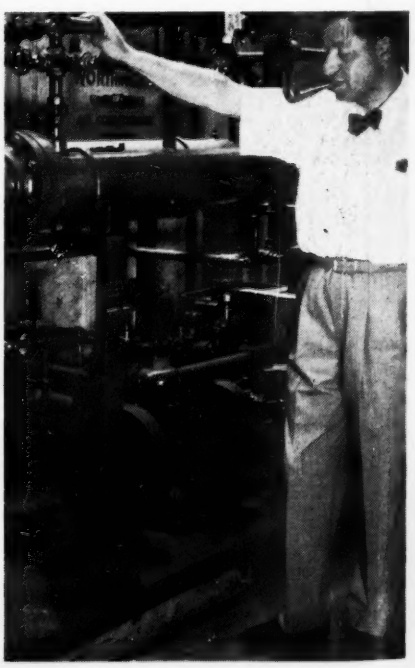
Paul Unger can give the details of handling the engineering and equipment problems of unusual jobs. For instance, one 100 gpm (and that's



Wiring *a television set probably would be simple for this Mid-West control expert who is proud because he's just finished and tested this power plant control panel. There are some 20 different colors to the wires he uses. Complete programming of the heat of the big building served by this control panel is provided by a seven-day clock in the panel. There's an over-fire draft control unit in the upper right-hand part of the panel.*



Blackboards *like this one are used in Mid-West's headquarters to schedule the work for the installation crews. With 80 to 100 installations usually being made at one time, careful planning is necessary. This board indicates which leader and which crew is on which job, tells when the job is scheduled to be completed, and tells the next job planned for the leader and crew. A glance at the blackboard tells which men are where, doing what.*



The parts *of this set-up include the belt-drive heavy-oil pumps, oil heaters, strainers, and oil temperature regulator. Mid-West bought these parts and assembled them into this unit. Completely piped, the unit is ready to be taken out to a job. The idea is to do as much of the work in the shop as possible. Paul Unger is the man at the right of the picture.*

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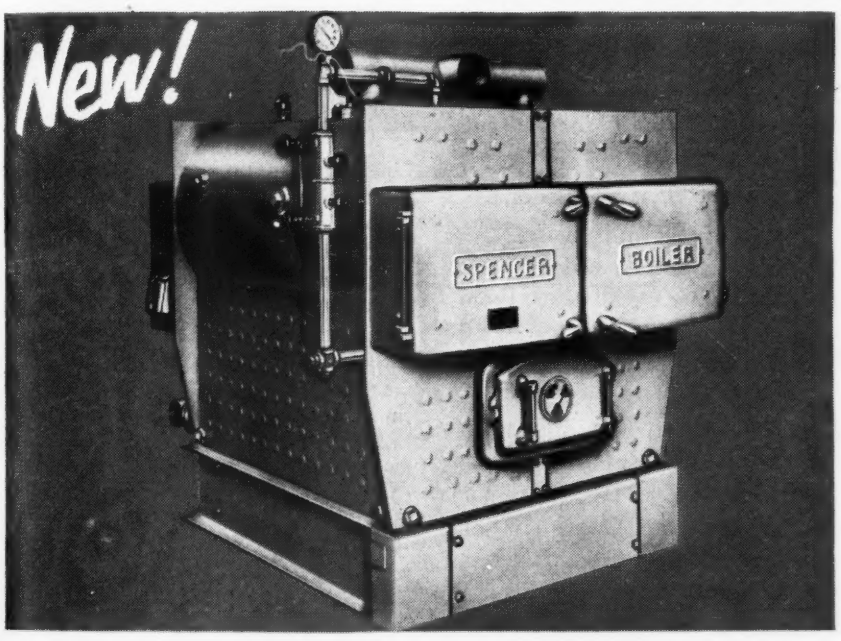

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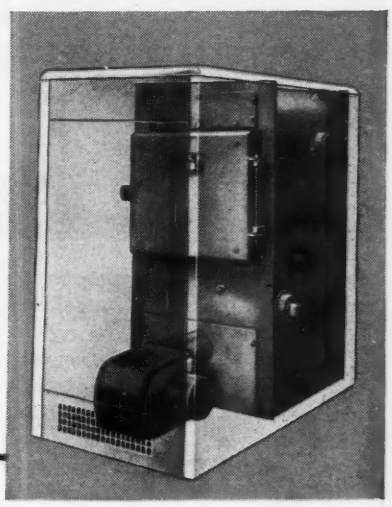

SPENCER HEATER
LYCOMING-SPENCER DIVISION
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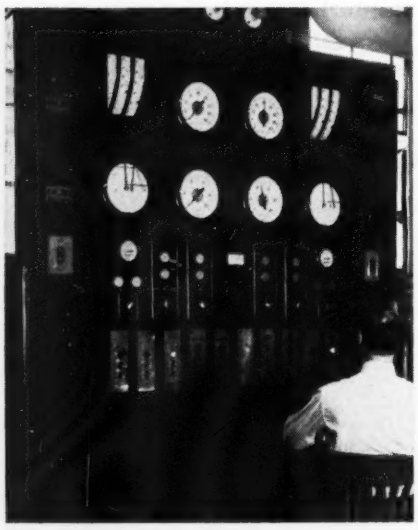
6,000 gph, mind you!) heavy-oil pump set was arranged to supply oil to two different boiler rooms. One of these boiler rooms has in it three 200,000 lb. boilers, roughly equal to 7,000 horsepower. Each of these boilers is fired by four burners, combination type for using oil, gas, or pulverized coal.

The other boiler room supplied by this 100 gpm pump set has two 1,000 horsepower water-tube boilers with chain grate stokers used to burn refuse. The refuse includes paper, wood, garbage from kitchens and lunch rooms, etc. Natural draft is used for the chain grate stokers. These two 1,000 horsepower boilers also are fitted up to be fired by Todd oilburners, two to a boiler. These are 100% forced-draft oilburners of the Hex-Press and Vee-Cee (variable capacity) type.

The 100 gpm pump set supplying oil to these two boiler rooms is located, of all places, under a band stand (the band plays to entertain the employees of the factory which has these two boiler rooms) and is 300 feet from one boiler room and 350 feet from the second boiler room, which is off in an opposite direction from the first one. Paul Unger stresses the point that the unusual and difficult problem of handling the heavy fueloil on this job was solved without the help of booster pumps and booster oil heaters. The underground oil lines are steam-line-traced and imbedded in insulating-type concrete. The four-inch oil lines prove to give a pressure drop less than five pounds, and a temperature drop of less than 5° F. As Paul Unger reels off performance figures like these, it's easy to see that they are set firmly in his mind for use in helping plan future difficult installations. His completed installations are always giving him the data needed to plan new jobs, for in the field of oilburning as elsewhere experience is the best teacher. Mid-West Heat Service has vast experience in the commercial-industrial oilburner field. In the past ten years it completed 3,000 heavy-oil installations, most of them including several burners. One of these jobs had 32 industrial burners in one boiler room.

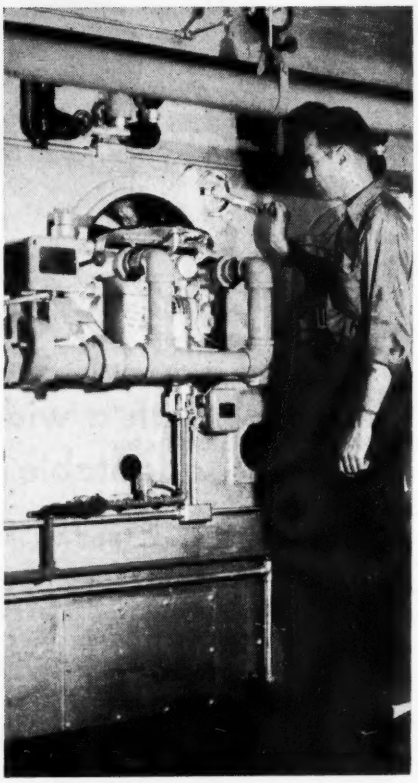


Control panel *in the Sunbeam plant, provides control for the oil-gas boilers, and includes recorders to report on their operation. The operation is automatic to the degree that the boilers run hour after hour without any attention whatsoever, though the load varies greatly and the CO_2 remains properly high, smoke properly zero.*

Impressive List of Users

Impressive names and numbers are on Mid-West's printed lists of users of its Todd burner installations. From just one sheet listing the names of 50 well-known companies come facts like these. Mid-West Heat Service provided a 1400 horsepower installation for U. S. Rubber Company, a 1500 hp job for Sunbeam Corp., a 7000 hp job for Sears, Roebuck & Co., a 4500 hp job for the Plaza Terrace Hotel in Cincinnati, an 8250 hp job for Peoples Gas Light and Coke Company, an additional 1000 hp job for the famous Merchandise Mart, a 4800 hp job for Kropp Forge Company, and a 6000 hp job for Darling & Company.

The same sheet has additional impressive horsepower figures and additional impressive names including Baltimore & Ohio Railroad, Chicago & North Western Railroad, Coca-Cola Company, Continental Can Company, Hart Schaffner & Marx, Hotpoint, Inc., Illinois Institute of Technology, La Salle Hotel, Mack Truck Company, Motorola, Inc., Revere Camera Company, Shell Oil Company, and Sheraton Hotel in Chicago. Those are samples, the lists go on and on. The horsepower figures listed for these burner users prove, for one thing, that this burner dealer did more than provide these companies with just a little water heater or a small oil boiler to heat an office building. By-and-large, Mid-West has installed the Todd setups needed to handle the entire heating and steam production problems of its users.



Oil-gas installation *made by Mid-West Heat Service for Sunbeam Corp., Chicago. Total developed horsepower is 1500. Burning gas at give-away prices in summer, these Todd burners can be switched to heavy oil in a matter of seconds. The Watch Engineer simply shuts off the gas, puts the Todd Vee-Cee oilburners in place, and starts them. Notice the painted-up, neat appearance of this installation. That's typical of Mid-West work.* FUELOIL & OIL HEAT *went to this boiler room without warning to take these pictures; the job was not dolled up to be photographed, it always looks like this. Not a drip of oil in the whole place!*

A mighty oilburner service department has grown up in the Mid-West organization, for a dealer can't go around installing 3,000 heavy-oil jobs in ten years without arranging for servicing them. In considering this, bear in mind that many of these jobs include batteries of from two to eight burners. Some have more burners, for example the job mentioned with 32 industrial burners in one boiler room.

In speaking of the service problem for just a moment while passing

For the **BIG** *heating jobs...*

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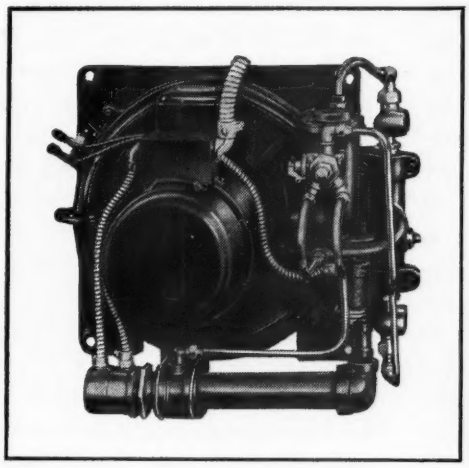
JOHNSON 30 AVH



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***and countless other* HEAVY DUTY HEATING JOBS**

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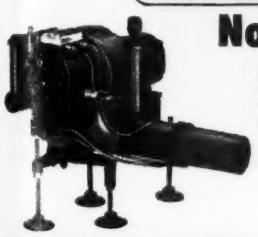

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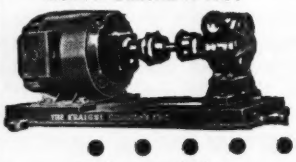

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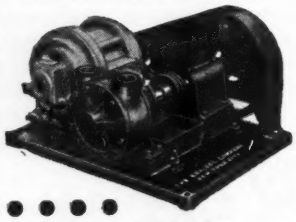

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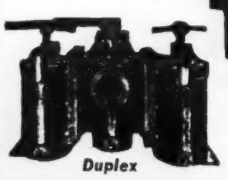

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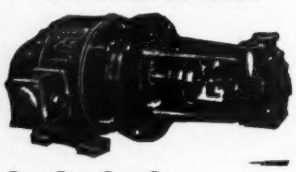

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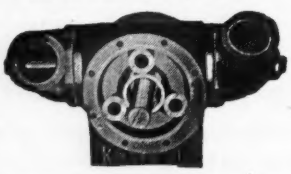

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COMMERCIAL & INDUSTRIAL oilburning

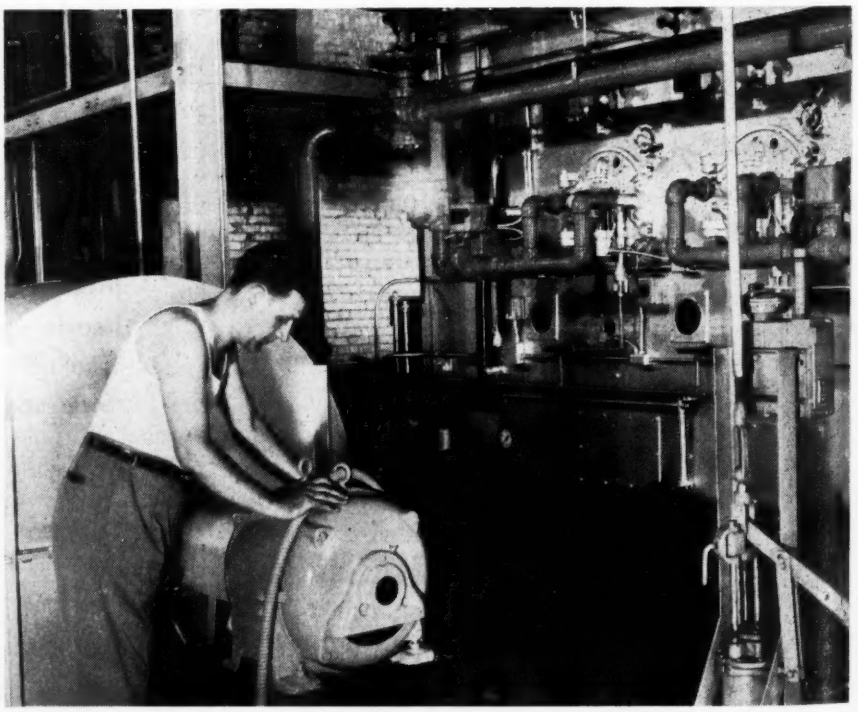
through his headquarters, Paul Unger said, "Glance at these standby parts needed for servicing. To anyone else, they represent $250,000 worth of junk! To us, they repreesnt spare parts for every installation we ever made!"

Mid-West Heat Service naturally is a past master at handling combustion control problems. In making its control panel set-ups Mid-West uses devices and combustion control specialties made by Ace, Bailey, Cash, Cleveland Fuel Equipment, Hays, Hagen, and Republic. That's in addition, of course, to such safety control devices as Firetron and Minneapolis-Honeywell. As the accompanying photographs show, many special pieces go into one of the Mid-West control panels. Highly specialized thinking, planning, and construction are involved.

There's a lot also to one of Mid-West's industrial heavy-oil pump sets. In describing just one of the company's installations, a Mid-West engineer happened to mention the oil pumping and heating equipment that his company designed and constructed especially for the job. There are three fuel-oil pumps, one motor driven and two driven by steam turbines that use steam at 160 lbs. pressure and 600° F. temperature. The three pumps are IMO's made by DeLaval, the engineer announced proudly. He reeled off additional details about the pumping set-up for No. 6 oil. It has three Davis oil heaters . . . has oil temperature regulators, six-inch duplex suction strainers, and four-inch discharge strainers. Each pump and each heater is sized for 50% of the 9,000 horsepower load. Finally he tossed in the detail that the pumping equipment for this installation includes a 150 gpm fueloil unloading pump. Notice that's gallons-per-minute, not gph.

Asked which makes of steam traps his company is using, this Mid-West engineer answered, "Sarco, Warren Webster, Armstrong, Illinois Engineering, and Yarway."

There's much to this business of commercial and industrial installations, and it includes know-how about steam traps, combustion controls, electronic safety controls, giant-size oil pump sets, a few dozen additional items, and last but not least the burners themselves.



Front *of one of the boilers in the Sunbeam Corp. boiler room, and at the left is the forced-draft blower that serves the boiler. Notice the gay paint job on everything, including the blower motor. There's a safety guard on the motor's drive coupling. The motor runs so quickly and is so free from vibration that you've got to put your hand on it to find out if it's running.*

Mid-West Heat Service, aiming to do a well-rounded business, takes interest in other things besides commercial and industrial oilburners. It handles on a distributor basis the Century line of automatic heating equipment. Also it has Oleson warm-air furnaces and Worthington air conditioning.

Paul Unger wants oilburner jobs, and as long as they are on a profitable basis he doesn't care where the jobs are. If there's something difficult or tricky about them, Mid-West is just that much more keen on getting the jobs. There's the big job it completed in California, sending there not only its equipment but also its own men to do the work. Since distance away does not bother Paul Unger, I asked if size of the job does.

"Size of the job doesn't bother me any more than the distance involved," he replied. "I still like small ones, like some of the small ones we did in 1931 when Erwin Mautner and I started out with our little two-man company. All on a basis of good business, naturally . . . a profitable basis. Today we're ready to go anywhere to heat an eight-holer or anything bigger!"

❖

L. J. Wing Mfg. Co. names seven Reps to handle Line

L. J. WING MFG. CO., Linden, N. J., has added seven sales representatives throughout the country to handle its heating, ventilating and combustion equipment. Named are:

Eggelhof Engineers, Inc., Tulsa, Okla. and Houston, Tex.; Engineering Associates, Erie, Pa.; Hawaiian Equipment Ltd., Honolulu, Hawaiian Islands; Guy Mankin, jr., Kent, Ct.; Premier Industrial Ltd., Edmonton, Alberta, Can. and Industrial Equipment Co., Orlando, Fla.

❖

Forest J. Beard has been named advertising and sales promotion manager, Ray Oil Burner Co., San Francisco 12, Calif. Beard was formerly sales promotion manager, Pabco Products, Inc., and prior to that was associated with advertising agencies in Spokane, Washington, and San Francisco.

designed for the dealer...

REQUIRE MINIMUM SERVICE

BRING REPEAT BUSINESS

BUILD DEALER PRESTIGE

- Time-tested horizontal-rotary design.
- V-Belt Drive for the high cup speed essential to efficient atomization.
- Four-Hole Hinge circulates oil through oil heater so that hot oil is on the *pressure* side of the pump, allowing you to burn oil at higher temperatures.
- Adjustable Air Nozzle provides accurate control of flame contour.
- Dual Pumps and Reservoir combined with Constant Oil Rate Control provide controlled firing regardless of viscosity variation.
- Burn any grade of oil. Also available with combined gas burner for any type of gas.
- Fully automatic in sizes to 500 bhp with dual ignition, and hi-low or fully modulating control.

Actually, Superior Rotary Burners were designed for Superior Steam Generators, but the combination of design features which made them so successful are the very factors which make Superior Burners particularly appealing from the dealer's viewpoint.

Dependability is the outstanding feature of Superior Rotary Burners . . . dependability that means fewer service calls, customer satisfaction, and prestige for the dealer. When you sell a Superior Rotary Burner, it sells *you* as a reputable dealer . . . one to be called on when new or conversion equipment is needed.

If you want to enjoy the *prestige* and *profit* that comes from owner satisfaction, lower operating costs, and fewer service calls; if you have the experience and the facilities; if you want to associate with one of the fastest growing, most progressive companies in the combustion field . . . write for the details today.

for performance you can **BANK** *on*

SUPERIOR COMBUSTION INDUSTRIES INC.
TIMES TOWER, TIMES SQUARE, NEW YORK 18, N.Y.

SUPERIOR
ROTARY BURNERS

COMMERCIAL & INDUSTRIAL oilburning

Historic Church heated with five-zone, combination System

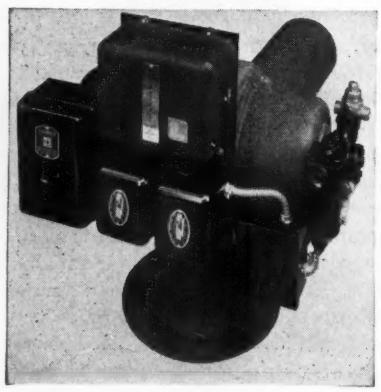
NORMAL PROBLEMS encountered in providing adequate and economical heating in a church structure are magnified when a building dates back to 1739. Such was the case when a modernization of the heating plant was started in St. Paul's Episcopal Church at Norfolk, Va.

One of the country's *most historic churches, the St. Paul's Episcopal Church in Norfolk, Va. was erected in 1739. The heating plant serving this structure, known as The Borough Church, was modernized recently and a National commercial steel boiler was installed in the basement of the nearby parish house, with piping laid in an underground duct.*

This is one of the country's most historic churches. The first church building was erected on this site in 1641 and the present structure, known as The Borough Church, was erected in 1739. High up in one of the outer brick walls, facing a busy street and directly over a present-day parking meter, is embedded a cannon ball. It was fired in 1776 by Lord Dunmore, then Governor of the Colony, from a ship lying in the harbor. Later on

Weatherall AUTOMATIC OIL BURNERS

COMMERCIAL • INDUSTRIAL



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#2 or #3 Fuel Oil

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Weatherall Engineers

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MANUFACTURERS OF QUALITY HEATING PRODUCTS SINCE 1928

Oil Burners • Air Conditioners • Boiler Burner Units

FOR DOMESTIC, COMMERCIAL AND INDUSTRIAL INSTALLATIONS

New **THERMALINK**

Automatic Electric

OIL PRE-HEATING UNITS

★ Integral adjustable thermostat eliminates wiring problems.
★ Adjustable temperature dial marked in degrees.
★ Available with both thermostat and motor control built into unit.
★ No relays or auxiliary controls needed.
★ Available with pipe-thread or flange header.
★ Wattages from 1000 through 7500.
★ Conservative watt-densities prolong life, minimize carbonization.

WRITE DEPT. FO FOR DATA SHEETS
PRS-152 & FRS-152

ELECTRO-THERM INC. • SILVER SPRING, MD.

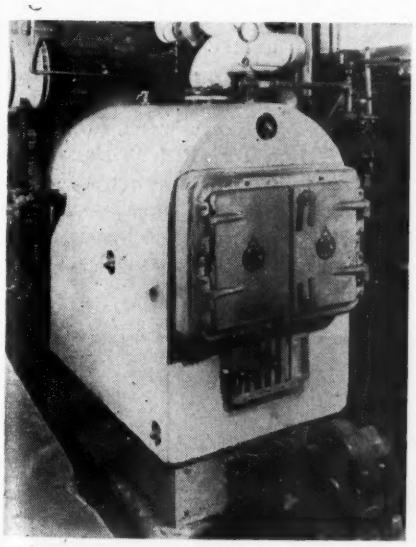
in the Revolutionary War, the British burned Norfolk, leaving only this church standing in the ruin.

Several months ago a decision was reached to remove an old cast iron steam boiler and to modify the heating system which serves the historic church and its nearby parish house.

A. R. Thompson, heating contractor of Norfolk, replaced the old boiler in the basement of the parish house with a National commercial steel boiler having a SBI steam rating of 7290 sq. ft. He kept the vapor heating system which was zoned for the church structure and parish house, but replaced hand-operated valves with motorized valves and thermostats.

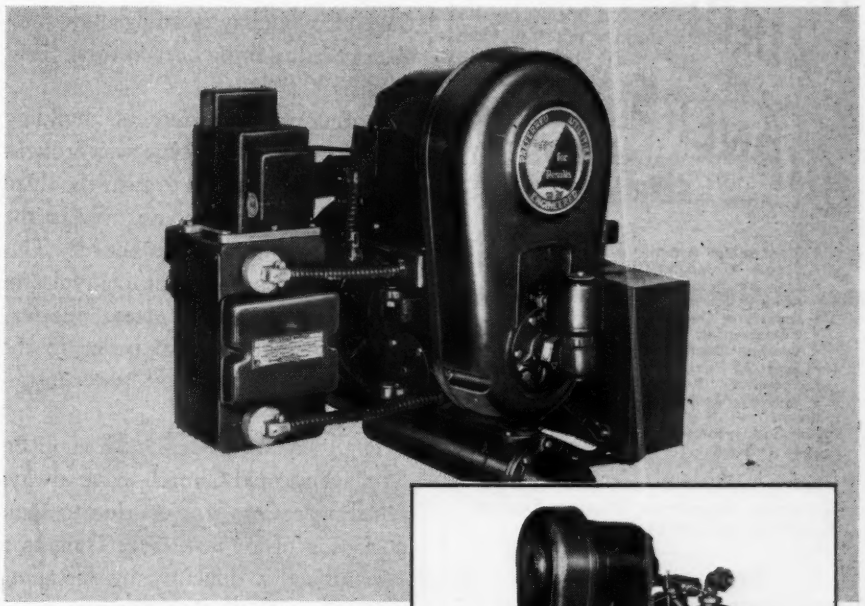
It was recognized that the former system of maintaining warmth throughout the parish house during weekdays was not economical. But, heat was needed rather constantly during winter months in the rector's office and in the secretarial rooms in the parish house. Therefore, a heat exchanger was placed on the new steel boiler. Hot water is now piped to these offices where its heat is radiated for the weekday needs. It is also possible to operate the Delco oilburner in the boiler for periods of time brief enough to raise water temperature, yet not long enough to produce steam.

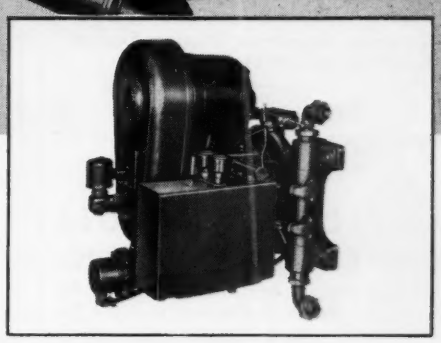
The Sunday School of St. Paul's



National *commercial steel boiler that supplies a five-zone hot water and steam combination heating system which has reduced operating costs and made possible a high degree of flexibility in heating the component parts of the St. Paul's Episcopal Church, Norfolk, Va., and its busy parish house.*

To Build Better Business-





- *Dual-Pump Reservoir*
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Sell the Preferred Horizontal Rotary Oil Burner. . . designed, built, and guaranteed by engineers who know how to deliver *dependable* efficient combustion . . .

More than 35 years of experience in selling, installing and servicing burners have gone into the design of the Preferred Horizontal Rotary Oil Burner. And we've spared no expense to keep this unit the *most modern, fully-automatic burner on the market.* From experience, we know how simplicity of design, installation, service, and operation can build both profits and repeat business. Compare Preferred with any other unit and you'll see why so many new *and* established industrial heating men now prefer to sell . . . PREFERRED!

The Preferred Rotary Oil Burner *starts* automatically, *ignites* automatically, *follows load* automatically, *shuts* off, *cleans* and *purges* itself automatically! All with Number 6 Bunker Oil.

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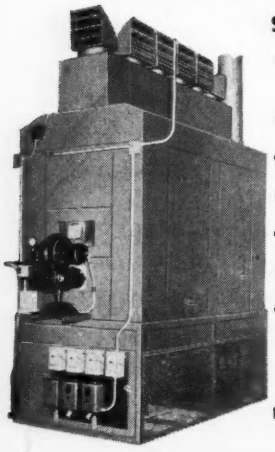
THE MOST MODERN, ECONOMICAL AND FLEXIBLE METHOD OF HEATING LARGE AREAS



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Capacities: 200,000-2,000,000 B.T.U.

(Also Suspended Furnaces, 75,000-750,000 B.T.U.)

Manufactured by

Chicago Steel Furnace Co.

9326 S. ANTHONY AVENUE
CHICAGO 17, ILL.

Episcopal Church had grown considerably during recent years. More space was needed. The parish house basement was remodeled. Fin radiators along the walls receive hot water from the boiler. Sunday mornings a thermostat is used to bring heat to these classrooms.

Anther modification of building heating made at this time was brought about by the decision to turn the third floor of the parish house over to the Boy Scout troop of the church. This space had never been put to any useful purpose. Therefore, a steam line was run from the National boiler to the third floor to serve a unit heater installation.

High, enclosed pews, such as in St. Paul's Episcopal Church, have always posed a heating problem due to their pocketing of air flow. Mr. Thompson overcame this difficulty by installing wall fin radiators behind some of the pews.

The 212-year-old church, of course, has no basement. Therefore, the heating piping between church and parish house some 100 ft. distant, are in an underground duct. Condensate is brought back to the National commercial steel boiler in the basement of the parish house by a pump.

This ingenuity of thought in the renovation of the heating plant, utilizing a five-zone combination of hot water and steam, has reduced operating costs, given an ease of operation, and has made possible a high degree of flexibility in heating the component parts of the historic Virginia church and its busy parish house.

COMMERCIAL & INDUSTRIAL oilburning

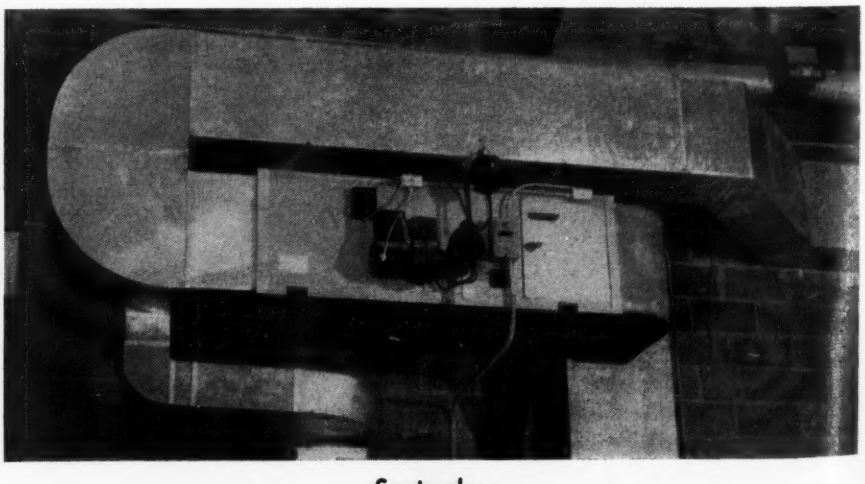
Six suspended furnace Units heat Aetna Industries Plant

APPLICATION OF SIX automatic, oilfired suspended furnace units in the plant of Aetna Industries, Inc., Detroit, is one of the recent installations of this type of equipment made by Jackson & Church Co., Saginaw, Mich. Joseph Wagner Co., earning a reputation in Detroit as "overhead heating specialists," handled the installation. The firm is one of the dealers selling J & C industrial heating equipment under Temp-Matic Wholesalers, Inc., distributors.

In the Aetna installation Wagner put in five 450,000 Btu oil furnaces, suspending them from the factory ceiling steelwork to heat the factory space and one 150,000 Btu unit, connected with ductwork serving the offices. Each unit is self-contained, equipped with its own heat exchanger, oilburner, fan, filters and controls.

Also, each furnace is equipped with diffusing grilles, so that there are no duct "losses" and fans operate at peak efficiency since they do not have to overcome duct resistance.

From the standpoint of the industrial plant, one of the greatest advan-



This oilfired *Jackson & Church overhead unit is one of six heating the factory and offices of Aetna Industries, Inc., Detroit. Installed by the Joseph Wagner Co., the unit shown serves the company offices. The other five heat the factory space through diffusing grilles installed on the furnaces.*

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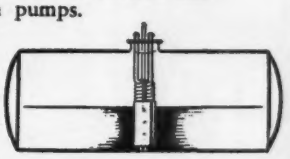
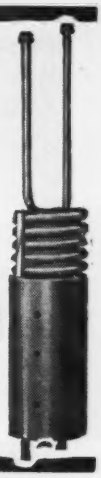
"Hot-Spot" PREHEATER

Heats heavy oils in bulk storage to proper flow temperature before they enter the suction line —takes load off suction pumps.

Heating medium — steam or hot water. Construction — all steel — connections for any diameter tank.





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REMPE COMPANY

336 N. SACRAMENTO BLVD. CHICAGO 12, ILL.

tages of this system is its flexibility to meet changing weather conditions. Controls are adjusted so that only one unit operates during mild weather, providing an initial capacity of 450,000 Btu, and, as the weather becomes colder, the other units are cut in.

More recent models of Jackson & Church furnaces can be furnished with induced draft fans, whereby the unit maintains a steady draft regardless of exhaust systems operating in the factory or outside wind conditions.

❖

Armstrong "Steam Trap Book" a 44-page trapping Manual

ARMSTRONG MACHINE WORKS, Three Rivers, Mich., has recently issued its new "Steam Trap Book," Catalog J, which supersedes Catalog H.

This 44-page catalog serves as a manual of recommended trapping practice. The publication includes: a trap catalog section containing complete physical data and list prices on Armstrong cast semi-steel and forged steel inverted bucket steam traps, compound steam traps and ball float air and air relief traps; a handbook section explaining how to calculate condensate loads and select traps for all classes of equipment, and a maintenance section explaining trap installation, preventive maintenance, troubleshooting and repair.

The Steam Trap Book is well illustrated with installation diagrams and cutaway and cross-sectional views. Also included are numerous charts and tables relating to the subjects covered. A detailed index simplifies location of subject matter. Copies of Catalog J are available on request.

New Customers
New Volume
New "King Size"
Profit

. . . SHOW BIG FUEL OIL USERS (6,000 GALS. OR MORE PER YEAR) HOW TO CUT COSTS AS MUCH AS 20% TO 30% WITH

Cleaver-Brooks

HEV-E-OIL BURNERS

FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL INSTALLATIONS

Because it efficiently uses the heavier, less expensive commercial No. 5 fuel oils instead of the standard light distillate, costing 20% to 30% more, the HEV-E-OIL Burner is a selling "natural" in these days of high and rising costs. Hundreds of highly satisfied owners of HEV-E-OIL Burners report costs cut as much as 20% to 30% in many installations.

BIG PROFIT WITHOUT ADDED OVERHEAD

Why continue to limit your selling effort only in the crowded, highly competitive, light-oil burner markets. Get the "king-size" profits — add volume — new customers by selling the HEV-E-OIL Burner — quality equipment at a quality price — the product of a nationally known manufacturer of oil-combustion equipment. HEV-E features:

- Burns low-cost No. 5 oil
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- All air supplied by large forced draft fan
- Low fire starting — safe, smooth ignition
- Full flame modulation — set exactly for size of boiler or furnace
- Automatic pressure lubrication
- High efficiency through accurately measured oil and air flow.

PLANNED PROMOTION MATERIAL

Includes displays, decals, newspaper advertisements, folders, mailing pieces and selling manual.

Send for all the facts and figures on HEV-E-OIL Burners — write today.

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CLEAVER-BROOKS COMPANY
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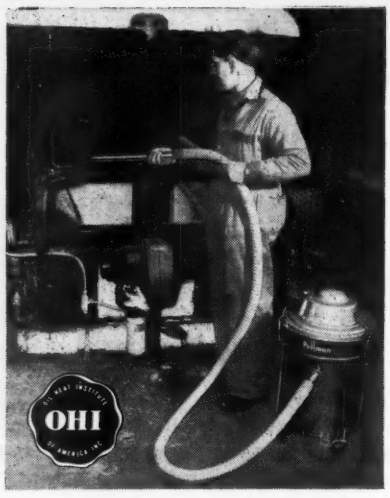


Efficient design lowers price of Pullman Furnace & Boiler Vacuum Cleaner

Here is the vacuum cleaner that gets you into the cellar and allows cleaning jobs to develop into profitable service work. Light in weight and very portable — only 30 pounds, yet has 1½ bushel capacity. No outside bag to worry about. Clean, neat appearance for working in living quarters of the home. Integral motor, internal filter, and circular air flow increase the efficiency of the PULLMAN vacuum and allows manufacturing cost savings which are reflected in its low price. No maintenance to worry about — just empty the container. Ball bearing, life lubricated, sealed motor. Electro-welded steel container. Equipped with 35′ cord, 10′ hose, and 27″ crevice tool for only $159.50 list, less trade discounts. Send for circular and name of nearest jobber.

NEW PULLMAN *Disposable* PAPER FILTER

New disposable paper filter protects fabric filter from soot acids and clogging. No more after-hours filter cleaning — just toss away and drop in clean filter paper.

CONVERTS TO POWER BLOWER in jiffy. Blow out fuel tanks, clean air ducts, registers, beams, floors and in shop.

Pullman

PULLMAN SALES CORP.

MFR: BOSTON 19, MASS.

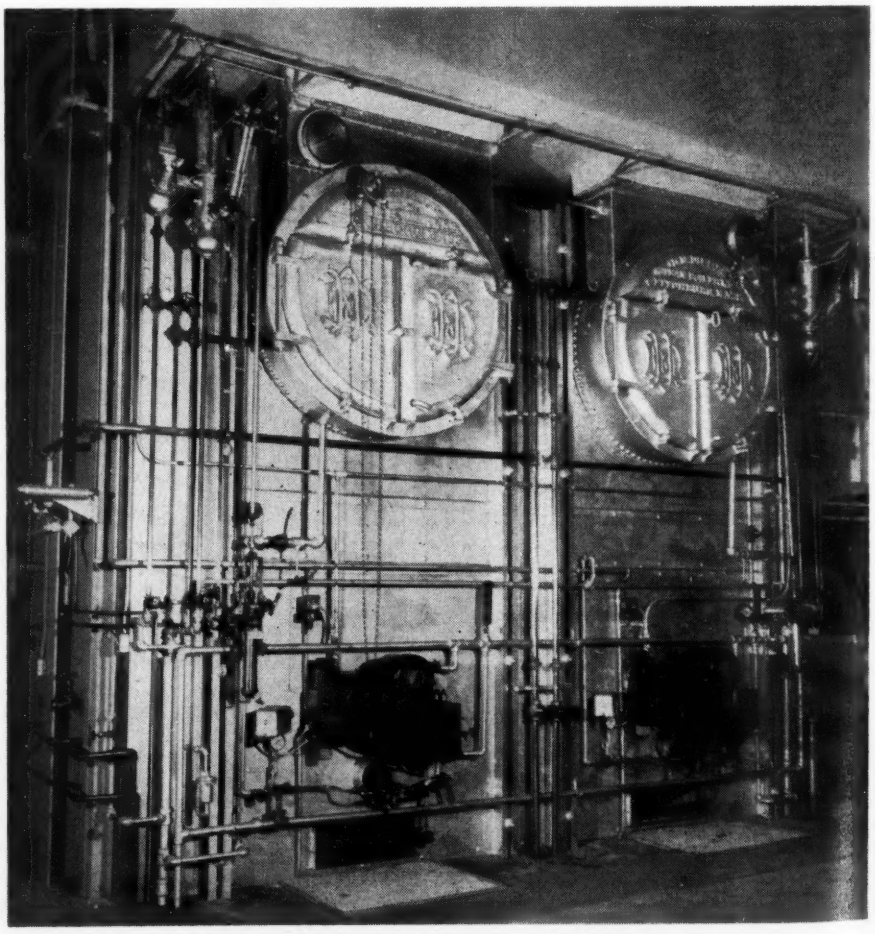
Brattleboro Hospital System provides for emergency Use

AN OILBURNING SYSTEM, designed for the Brattleboro Memorial Hospital, Brattleboro, Vt., was laid out by Joseph C. Bogue, consulting engineer of Cambridge, Mass., to furnish an unceasing supply of steam for heat, hot water and sterilization, automatically operated, with provision for quick emergency change-over in case of electric power failure.

This system, installed by George V. Corsiglia Co., Greenfield, Mass., burns No. 6 oil automatically in two Dillon horizontal return tubular boilers, using Preferred Utilities burners. An Engineer Co. duplex pump and heater set provides electric-driven and steam-operated fueloil pumps, along with tubular oil heaters, temperature controllers and related equipment. The burners, operated normally with electric-driven pumps, switch over to steam-operated pumps in the event of power failure.

The pump and heater set discharges heated No. 6 oil through a 1½″ line, in which is installed a 6 KW thermostatically-controlled electric immersion heater piped so that the oil can be recirculated back to the pump. The electric heater may be used for preheating to start the plant if steam is not available. The oil piping is arranged so that oil to the automatic burners is held at 5 psig, with a reducing valve and a bypass to permit oil at 125 psig to flow to the steam atomizing burners.

The two burners each have a nominal rating of 100 hp, with the burners capable of developing 135 hp. Horizontal V-belt, motor-driven type Preferred Utilities burners, each rated at

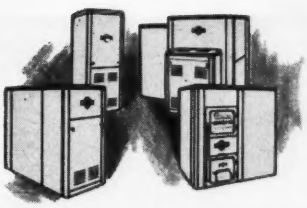


These two *Preferred Utilities horizontal rotaries are used for normal operation in the oilburning system installed in the Brattleboro Memorial Hospital, Brattleboro, Vt., to furnish heat and hot water. In case of power failure, they can be removed quickly and steam atomizing burner guns inserted in their place.*

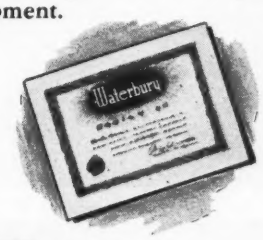
it takes all four . . .

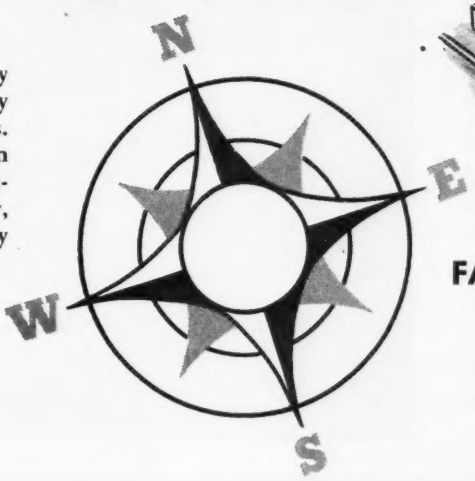
TO GIVE DEALER SATISFACTION

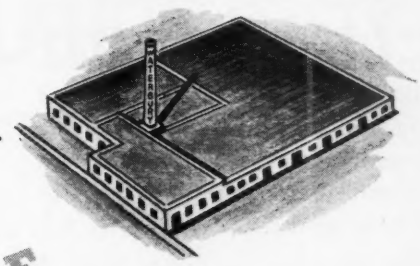
PRODUCT . . . Every Waterbury furnace, air conditioner and gas conversion burner must meet the highest standards in warm air heating equipment. This is in line with the belief that "It's what's *under* the casing that counts!"



POLICY . . . Waterman-Waterbury maintains a clearly-stated policy towards dealers and distributors. It includes exclusive distribution rights, a close, personal relationship between dealers and factory, and a complete line of quality equipment.



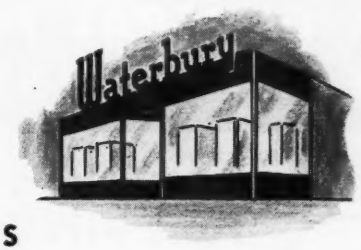




FACTORY . . . For over 45 years, the Waterman-Waterbury Company factory has combined the finest efforts of skilled craftsmen and experts in heating. The result has been continuing customer satisfaction with Waterbury.

Waterbury

FURNACES AND
WINTER AIR CONDITIONERS



MARKET . . . National advertising and the testimony of satisfied customers give prospective customers confidence in Waterbury. Effective merchandising and local advertising help these prospects become satisfied customers.

Dealers at all points of the compass find that association with Waterbury is good business. Their satisfaction is based on a number of reasons, including the four given here. Waterbury dealers know that Waterbury is the right line, with the right policy for them.

"It's what's under the casing that counts!"

The Waterman-Waterbury Co.

OVER 45 YEARS OF WARM AIR HEATING

1171 Jackson Street N. E. ♦ ♦ ♦ Minneapolis 13, Minnesota

45 gph, used in the installation are equipped to start on low fire and modulate the flame to conform to the boiler load. Each has an integral reservoir with dual gear pumps and Voluvalve metering device to measure exact amounts of oil, compensating for changes in oil viscosity or temperature.

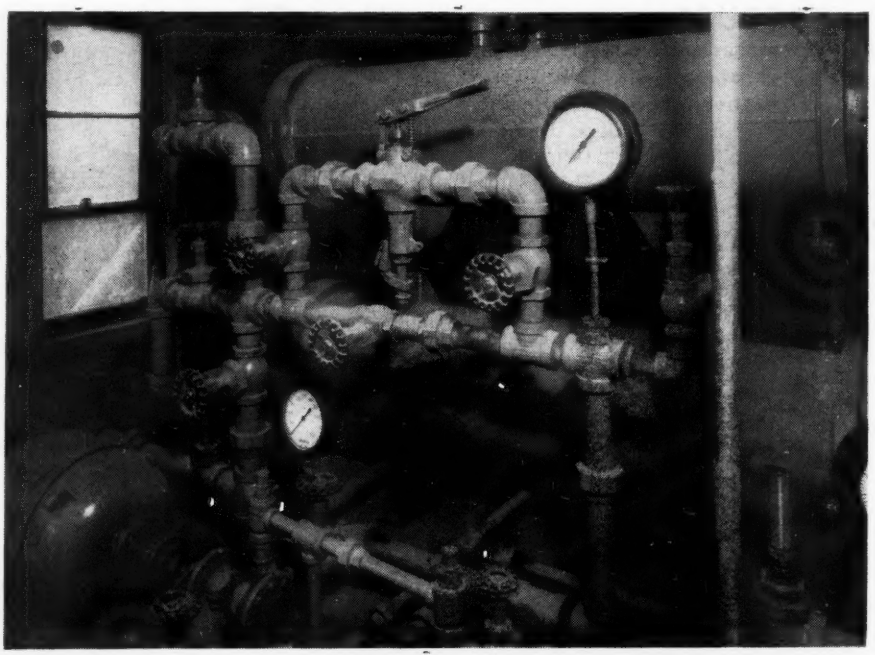
The safety devices with which the system is equipped include Combustion Control electronic flame failure controls, and a Vaporstat in the gas line to the ignition system to shut-down the plant if gas pressure fails. In addition there is a light and audible signal installed in the main hospital switchboard to indicate failure of any part of the oilburner system, loss of gas pressure or abnormal drop in steam pressure in the boiler header.

For emergency operation, there is provided below the horizontal rotary burner on each boiler an opening for quick insertion of an Engineer Co. steam atomizing burner gun. Steam and oil piping is arranged so that the emergency burner can be in place and ready for operation in less than 90 seconds after power failure.

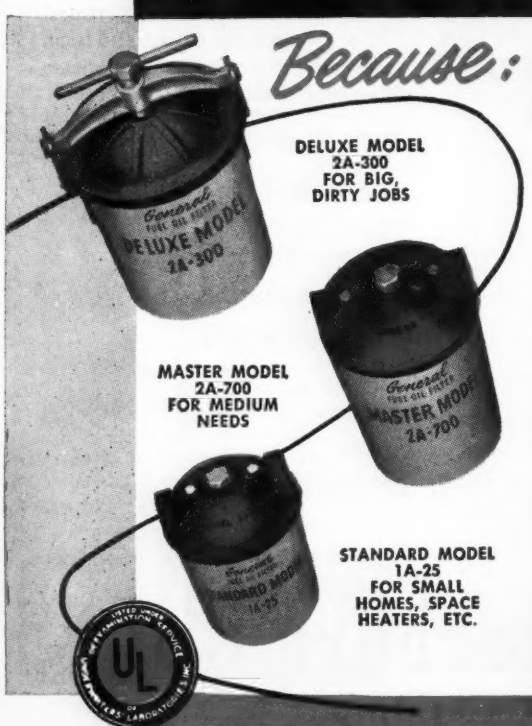
Duplex pump Unit permits continuous burner Operation

THE USE OF A Schuette and Koerting Co. duplex pumping, heating and straining unit, shown in the photograph, in the modern power plant of National Brewing Co., Baltimore, Md., represents an interesting application of the equipment to assure a constant flow of bunker oil to the oilburners. The SK duplex unit is calibrated for the specified required capacity, with each pump and heater having enough capacity to handle the total requirement of the unit, one pump and heater being maintained on a stand-by basis.

Duplex suction and pressure strain-



INSTALL A GENERAL FUEL OIL FILTER ON EVERY HEATING SYSTEM YOU SERVICE



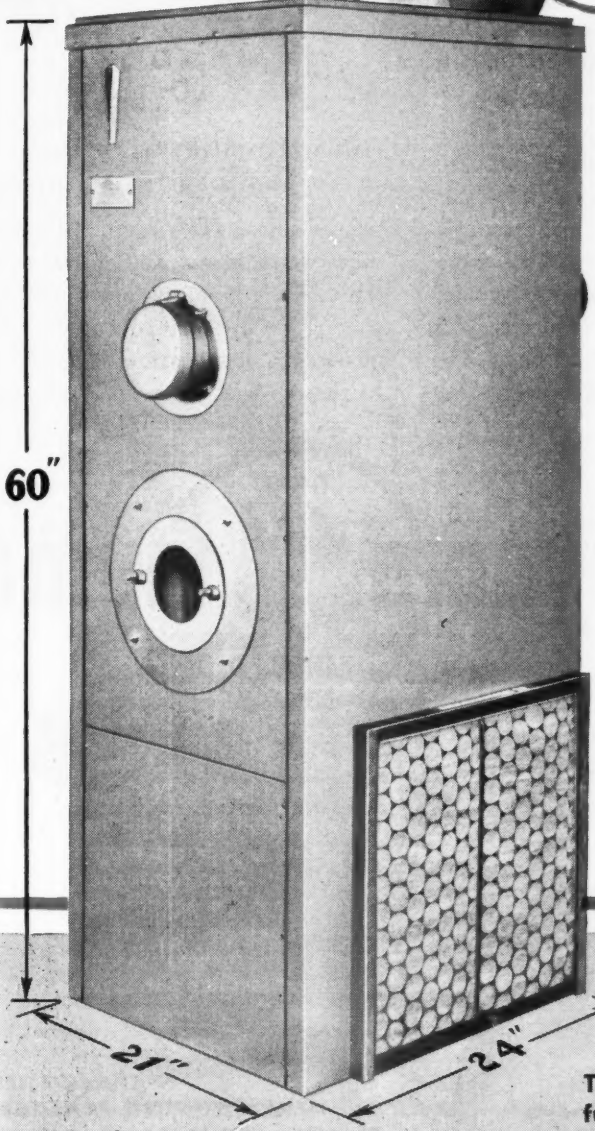
Because: GENERALS assure clean, safe fuel oils for your customers—stop costly "call-backs" for you

1. Positive absorption with GF's double filter element. Finest felt cartridge removes the finest dirt particles. Inner wire mesh strainer prevents collapse, backs up cartridge.
2. Two-minute felt cartridge replacements mean easy service revenue for you for years to come.
3. Your customers will WANT GENERAL FILTERS and the clog-free protection they offer the year 'round by trapping impurities before they reach burner nozzles.
4. There's a GENERAL FILTER model to fit every need . . . small or large . . . home, business, trailer, etc. All that's needed is a wrench and a few minutes' work.

Remember: . . . a ⅛ inch layer of soot raises heating costs up to 25%! CLEAN RIGHT SOOT REMOVER cleans any system quickly, safely — leaves no residue.

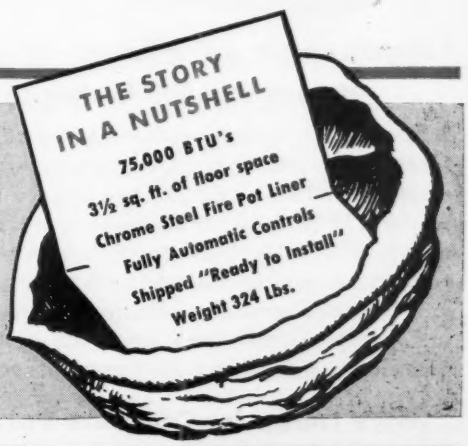
GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTERS
12890 Westwood Ave. Detroit 23, Michigan
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO 13, ONTARIO

Here's HIGH QUALITY... and LOW PRICE with ROCK-BOTTOM INSTALLATION COSTS



● The Kaustine Oil Fired "Jersey 75" Automatic Forced Warm Air Furnace is the ideal unit for the thousands of small homes being constructed today. In the "Jersey 75" you get a highly dependable unit which requires a minimum of installation time and takes up only 3½ square feet of floor space. It is shipped from the factory completely assembled and wired, ready to install. Such features as its chrome steel fire pot liner assure longer life and efficient performance. The "Jersey 75" is also available as a "Counter-Flo" model for installation in slab or crawl space type homes. Weight 324 lbs.

Write for full information to Dept. F-9.


THE STORY IN A NUTSHELL
75,000 BTU's
3½ sq. ft. of floor space
Chrome Steel Fire Pot Liner
Fully Automatic Controls
Shipped "Ready to Install"
Weight 324 Lbs.

There is a Kaustine furnace or Winter Air Conditioner for every type of home.

Kaustine

COMPANY, INC.
PERRY, NEW YORK

Modulated Warm Air Furnaces from 65,000 to 270,000 B.T.U.
Septic Tanks . . . Pressure Vessels . . . Oil and Gasoline Storage Tanks . . . Truck Tanks . . . Custom Built Fabricated Equipment

ers, two fueloil heaters, two gear pumps and accessories make up the unit. In operation, Bunker "C" fueloil enters the heaters at 90° F, is heated to an outlet temperature of 200° F. by means of steam and the gear pumps deliver the oil to the burners at a rate of 19 gpm, discharge pressure of 125 psig.

The fueloil heaters consist of a steel shell welded to tube sheets, with the tubes protected from steam erosion at the steam inlet connection by means of a steel impingement baffle. The baffle also allows equal distribution of the vapor, while tube expansion is taken care of by means of bowed tubes or expansion joint in the shell. Steam pressure in the heaters averages 125 psig.

The duplex suction and discharge strainers permit continuous operation of the unit, since, with the unit running under full power, one side can be cut off for cleaning without interrupting the flow of oil through the other side.

Capable of handling any liquid free from solids and especially suitable for pumping viscous liquids, the unit's herringbone gear pumps feature rigid construction, straight bore housing, case-hardened gears, press-fitted and keyed to the shaft, and a specially-designed high pressure tooth angle on the gear teeth to prevent slippage.

1952-1953 Sid Harvey's News covers new and rebuilt Parts

SID HARVEY'S NEWS, a 242-page fully illustrated catalog for 1952-1953, has been published by Sid Harvey, Inc., Valley Stream, N. Y., covering new and rebuilt parts, accessories and equipment for automatic heating, oil, gas and stoker.

A feature of this catalog is the grouping together of all of the parts according to their application, rather than by the name of its manufacturer. As an example, all ignition transformers are in one place in the catalog with the name of the burner they fit and their electrical specifications. The trade price is given, both new and rebuilt. Motors and fuel units are handled in the same manner.

Electrical controls are listed by the name of the instruments such as thermostats, relay, pressure control, along with their specifications. All those that are generally interchangeable are grouped together. Prices are shown, both new and rebuilt. Constant level valves, regulating valves, magnetic valves, wall pumps, water feeders, and more, are all listed in the same manner as the controls.

The Sid Harvey catalog also has valuable information on selecting nozzle sizes, installing by-pass plugs, heat accelerator data as well as many wiring diagrams.

Gilbarco's Midwest branch moves to new Quarters

GILBERT & BARKER MFG. CO., West Springfield, Mass., manufacturers of the Gilbarco line, has announced the moving of its Chicago branch headquarters to new quarters at 600 South Michigan Ave., Chicago 5, Ill.

NOW...
a new highly efficient burner
for BOTH
GAS and OIL

DUAL
syncro GAS•OIL flame
BURNER

Compact, simple and efficient—Easy to Install on any standard heating unit!

After years of searching for a truly efficient combination gas and oil burner, gas company engineers designed and developed the new Syncro-Flame Dual Burner. It is truly outstanding in versatility and economy . . . the perfect combination burner for residential, commercial and light industrial use. The new Syncro-Flame Dual Burner switches instantly and automatically from gas to oil or from oil to gas when a specific outside temperature is reached.

Write Today for Complete Data Sheets

NEW ILLUSTRATED BULLETIN describes the available models of Syncro-Flame in complete details. Send a card or letter for your copy today!

ASK ABOUT SYNCRO-FLAME'S COMPLETE LINE OF GUN-TYPE OIL BURNERS FROM 1 to 20 gal. per hour capacity.

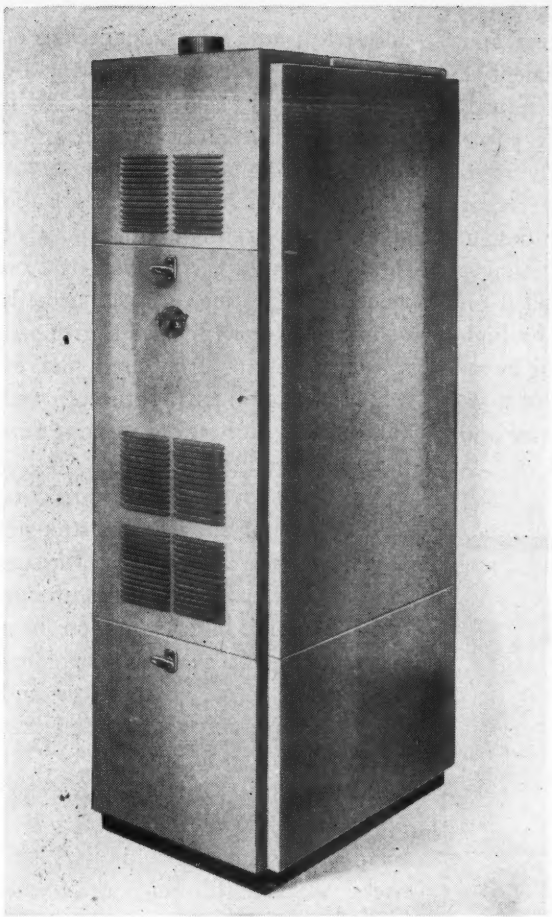
Distributorships Available

Several valuable territories are now open for distributors. Synchronous Flame, Inc. will be glad to furnish full details without obligation.

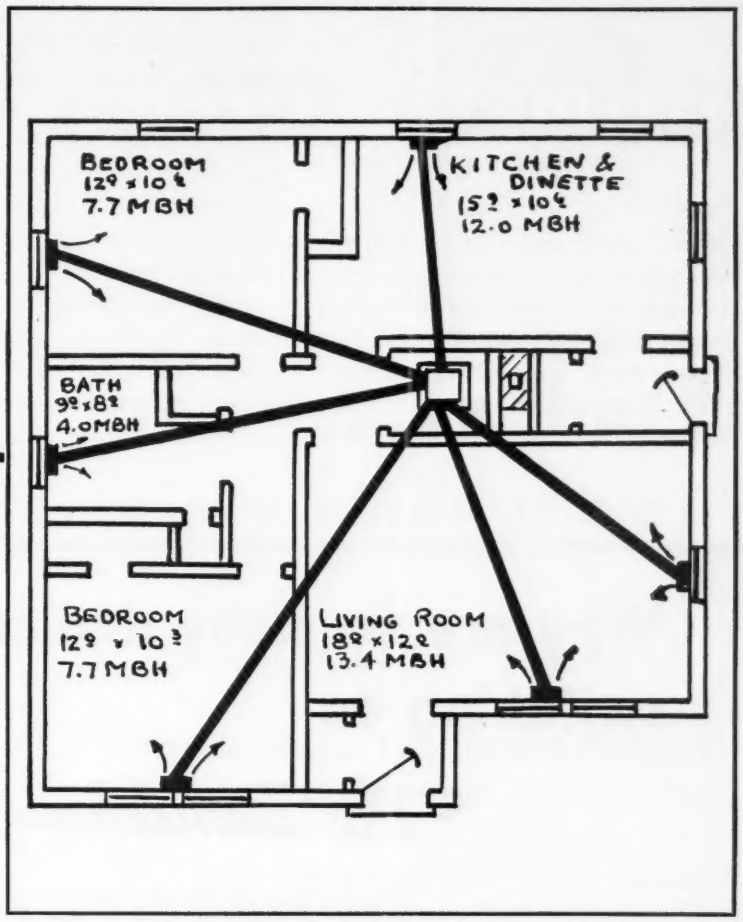
CHECK THESE OUTSTANDING FEATURES:

- Automatic, electronic ignition eliminates pilot light when burner is not operating.
- Electronic safety controls shut off burner in case of flame or power failure.
- Patented tube design permits radiant, swirling flame with either oil or gas.
- Burns any type gas—and number 1 to 3 oil.
- Ignites quietly—burns with a clean flame—no puffs, flashbacks or soot.
- Finest quality workmanship and materials for long, dependable operation.
- Lockout switch prevents both fuels from burning at same time.
- Easy to install—easy to service.

SYNCHRONOUS FLAME, INC.
329 SOUTH LA SALLE STREET • CHICAGO 4, ILLINOIS



FURNACE—quality Vikimatic winter air conditioners, all types and sizes, give economical, automatic, trouble-free heating in use with Flatpak Ductwork.



DUCTWORK—either popular Flatpak preformed fittings, or new 4½" round ductwork for *perimeter heating*, offer most efficient air flow from Vikimatic furnace units. Investigate furnace-ductwork Packages today!

MODERN HOMES GET FURNACE-DUCTWORK "PACKAGE"!

SINGLE AND MULTI-UNIT BUILDERS NOW INSTALL VIKIMATIC LOW-COST COMPLETE HEATING PACKAGES — FURNACE PLUS DUCTWORK TO FIT

Biggest news in today's home building is "packaged" warm air heating systems! A furnace of desired type is combined in single shipment with ductwork required for complete installation. Contractors nationwide applaud the obvious economy and convenience achieved.

Viking Manufacturing Corporation now supplies builders, large and small, with low-cost "packages" comprising:

1) A VIKIMATIC FURNACE — gas or oil, basement or utility room, forced air, gravity, or counterflow; and,
2) FLATPAK DUCTWORK — either standard, or new 4½" round *perimeter heating* ductwork, "packaged" as required for average 5- and 6-room homes.

Vikimatic low-cost Furnace-Ductwork Packages have demonstrated high sales appeal. And builders find that low initial investment plus elimination of "excess" costs along the line, give higher profit margins. Check Vikimatic's low-cost Furnace-Ductwork Packages *today!*

Special prices available to "project" builders! Also, special prices offered for initial orders from newly-franchised dealers! Write, wire, or phone today!

VIKIMATIC

THE VIKING MANUFACTURING CORPORATION

DEPT. 2, 1747 CHESTER AVENUE • CLEVELAND 14, OHIO

Book Shelf

Industrial Furnaces, Volume I is revised

VOLUME I of "Industrial Furnaces," the classic volume in its field for more than a quarter of a century, has been revised in a new fourth edition by W. Trinks. Regarded by engineers as the most thorough exposition in existence of all phases and problems of practical technology, the book covers the principles underlying all furnace design and operation. The general arrangement of the subject matter has been retained, and Mr. Trinks has brought his furnace engineers' bible completely up to date by introducing the most recent scientific facts on heat transfer, design, operating principles, and techniques.

New material has been added on increase of furnace capacity by high (thermal) head heating; heating by induction; effect of arrangement of stock in furnace; thermal conductivity and diffusivity; heat loss through walls of lightweight firebrick; fuel saving by permeable walls; zone heating; simplified calculation of heat transfer by radiation from clear gases; and the heating of aluminum. Mr. Trinks also gives examples for heating piles of sheets and coils of strip; test data on modern slab-heating furnaces; methods of insulating water-cooled skid pipes; a comparison of front-fired and of side-fired continuous furnaces; and data on and illustrations of large furnaces with rotating hearths.

The new material also includes data on heat-resisting alloys and on strength of refractories; material on furnace mortars; new methods of suspending furnace roofs; information on new furnace elements; methods of avoiding the cracking of tile recuperators; and other valuable information resulting from modern research.

Published by John Wiley & Sons, New York 16, N. Y., the book is a companion volume to "Industrial Furnaces, Volume II" which deals with fuels, furnace types and furnace equipment. The fourth edition of Volume I contains 528 pages and is priced at $10.00.

New perimeter heating Book published by NWAHACA

A NEW EDITION of a complete book covering the subject of perimeter heating has been published by the National Warm Air Heating & Air Conditioning Association. Named booklet No. 4, it contains applications for basementless structures built over crawl spaces as well as those constructed on concrete slabs.

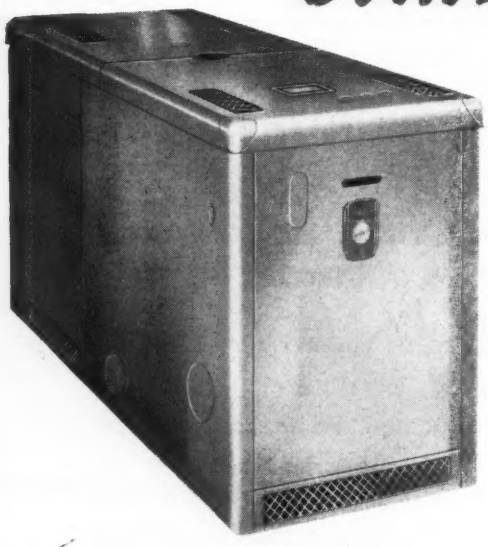
The design and installation recommendations were obtained from perimeter heating research work sponsored by the Association at the University of Illinois and from supplementary investigations from its Mobile Field Laboratory, which is used to test formal research by actual installation methods and practices in homes.

The booklet discusses warm air perimeter heating, site selection, and performance characteristics. It describes various applications for structures built on concrete slabs and included with these are the perimeter

Why are so many dealers switching to

The Bethlehem

DYNATHERM?



They want to keep a step ahead of competition by selling something really new!

Here's the most compact and complete oil burner on the market today! The Bethlehem DYNATHERM employs an entirely new principle of oil burning—the DYNATHERM "Whirling Flame" for maximum efficiency and economy. Results? . . . Your customers get more for their money in fuel economy . . . in compactness . . . comfort and convenience! The Bethlehem DYNATHERM is built by a 120 year old organization of broad experience in oil heating.

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

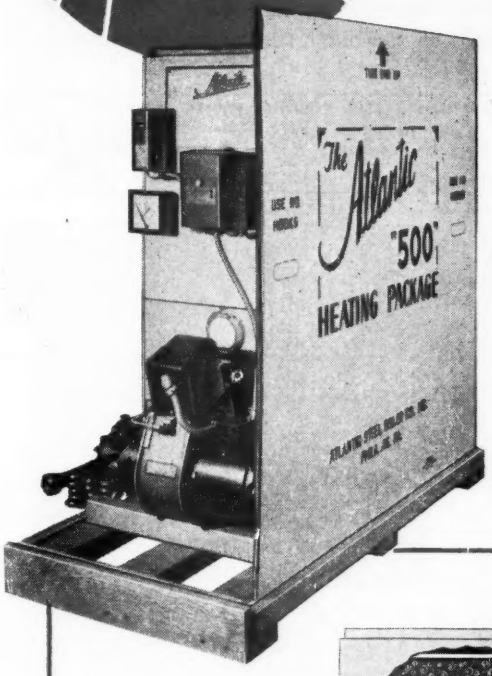
BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

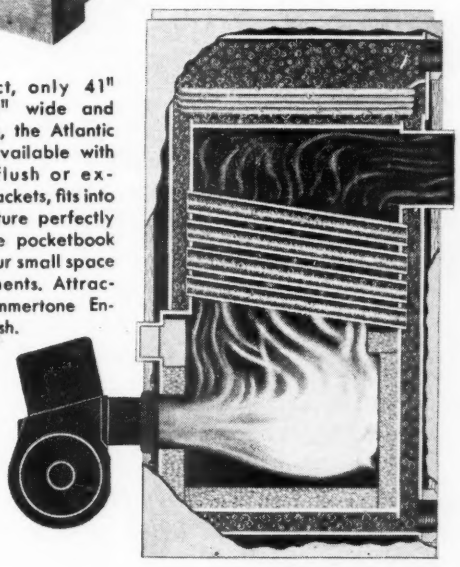
as easy as that?

Certainly when it's an *Atlantic* "500"

Horizontal Water Tube Heating Package!



Compact, only 41" high—19" wide and 41" long, the Atlantic "500" available with either flush or extended jackets, fits into your picture perfectly—fits the pocketbook—fits your small space requirements. Attractive Hammertone Enamel finish.



Built in accordance with ASME boiler construction code. Wet base—fire box completely surrounded by water—horizontal tubes mean economy of operation—efficiency and quicker heat—boiler can be cleaned easily from either side.

What makes it so easy? Here's the answer. Atlantic made a study of the Heating Field and found out that installation costs were high, assembling took precious time. So—they came up with the obvious answer—

An Honest to Goodness *HEATING PACKAGE*—

completely assembled for quick installation. Its enthusiastic acceptance was immediate.

Heating Contractors simply ordered the ATLANTIC "500"—unpacked it, connected it, collected for it.

It saved them time and installation costs up to $40.00.

Write or wire today for complete information.
Our "profit plan" means more money to you.

A COMPLETE LINE OF HEATING UNITS

FROM RANCH HOUSE

TO TWENTY FAMILY APARTMENT

Atlantic

STEEL BOILER CO., INC.
22nd and WASHINGTON AVENUE
PHILADELPHIA 46, PENNA.

NEW SOOTMASTER FURNACE CLEANER

Eliminates Leaky Bags & Costly Blow-Outs

Eliminate the outside bag! Learn how economically SOOTMASTER Throw-Away Filters work on your present cleaner. Better yet, ask your jobber about the new SOOTMASTER FURNACE CLEANER, by the originators of the Throw-Away Filter for commercial cleaners.

CONVERSION UNITS FOR YOUR PRESENT CLEANER

Filter Unit—less motor, for G. E., Premier, Pullman or Harvey $17.75

Filter Units complete with new Turbine Fan (quieter) Motor for G. E. or Premier $54.50

SOOTMASTER Furnace Cleaner COMPLETE $99.50

Jobbers Write, Wire, Phone

MASTER-CRAFT SUPPLY CO., INC.

HAVERSTRAW, NEW YORK

loop, radial and lateral systems. A section is devoted to perimeter heating systems for houses built over crawl spaces. Three variations of applications of crawl space duct system and the crawl space plenum system which uses the space under the house as a warm air supply chamber are included.

As the supply of galvanized metal may become more critical, the new manual includes installation suggestions for using several other types of materials. Advantages and disadvantages for each of these duct materials are examined.

A section of the manual is devoted to installation practices common to all types of perimeter heating applications for basementless houses. The material covers the selection and installation of the furnace unit, temperature control equipment, ventilation and combustion air, and the balancing of the system after installation is completed.

Six separate worksheets—one for each perimeter system discussed—have been developed for use with the manual. Each worksheet is complete in itself, with space provided for heat loss calculation and selection of equipment. Complete design instructions are printed on each form together with all necessary charts to determine the proper sizes for heat carrying ducts.

Booklet No. 4 on perimeter heating, published by National Warm Air Heating & Air Conditioning Association, 145 Public Square, Cleveland 14, O. Price: $1.00 per copy postpaid, less 40% discount offered members of the Association.

* * *

API Handbook gives Details on training marketing Personnel

THE TECHNIQUE of training marketing personnel, and the profitable results that can be obtained from such a program, are spelled out in a new handbook issued by the Division of Marketing of the American Petroleum Institute.

The training book is divided into two sections and covers the following contents: Part One — Training, and Good Ways of Doing It; Good Training Pays; Where You can Get Help with Your Training Job; How to Set Up A Training Program; How to Train; Training Aids and How to Use Them; Part Two—Training for Specific Aspects of Marketing; How to Manage; Bulk Plant Operations and Selling; Service Station Selling and Services.

Emphasizing the importance of trained personnel, the Handbook states:

"The petroleum industry is essential to our nation in peace time and vital in time of war. At all times, the industry serves each individual citizen in scores of different ways. It heats thousands of homes, furnishes power for millions of automobiles, and keeps the wheels and gears humming smoothly throughout industry, agriculture and commerce. To do these things well, the industry depends upon you (the marketers) and the men you develop through training."

API Manual 1500, "Developing your Men builds Profits," available from American Petroleum Institute, 50 West 50th St., New York 20, N. Y. Price: $1.00.

❖

Ike's victory a calculated Breeze at Convention Hall

AIR CONDITIONING was credited with an assist in winning the GOP presidential nomination for Gen. Dwight D. Eisenhower. Gov. Theodore R. McKeldin, of Maryland, who made the nomination speech for Ike, declared:

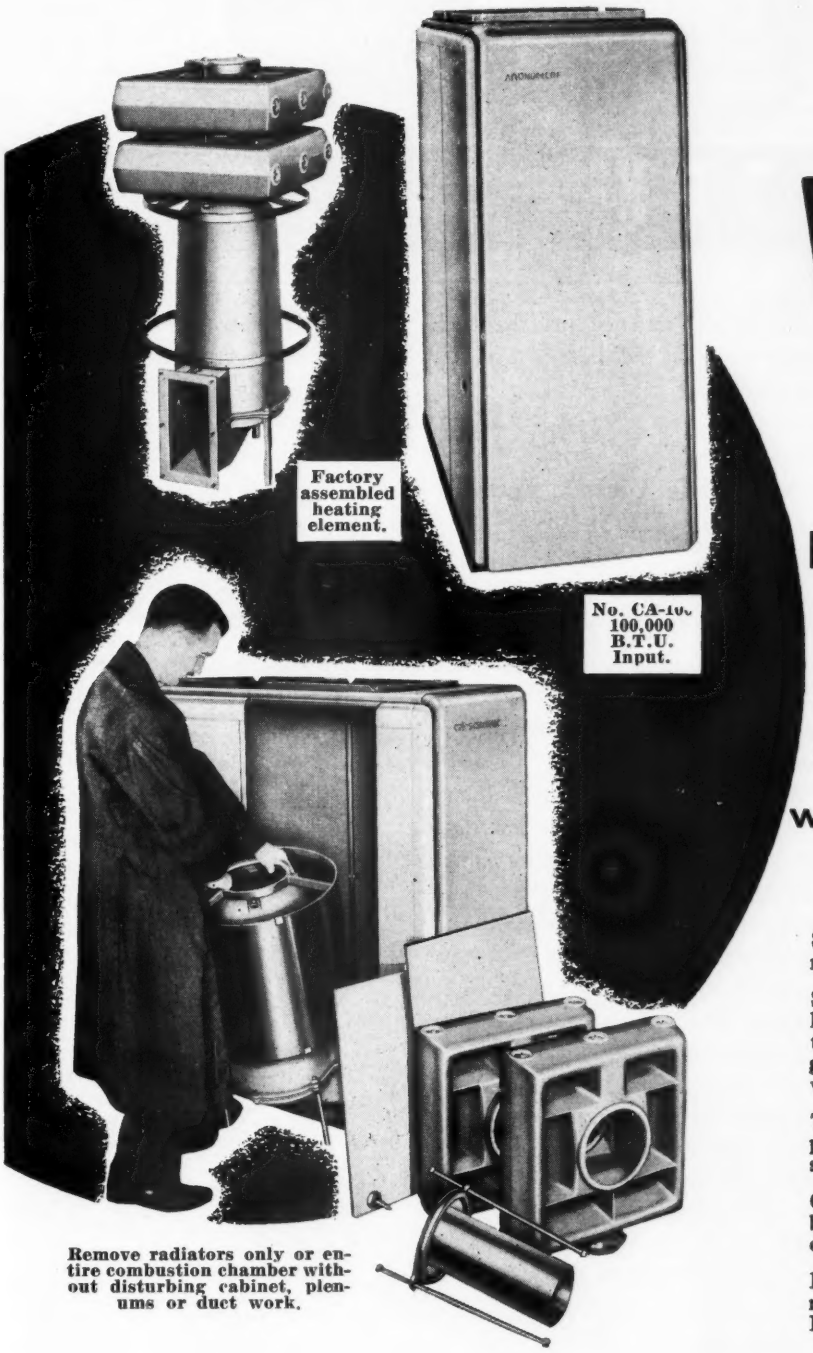
"When you look back now over our long and tense convention, it seems clear that air conditioning played an important role. By sparing the delegates undue physical exhaustion, it helped prevent the danger of apathy that might have cut short the Eisenhower boom."

Despite the heat of lights, of nearly 14,000 persons inside and of 90-degree temperatures outside, the automatic controls regulating the air conditioning system did not have to be touched throughout the convention.

Luxaire®

CAST-IRON GAS-FIRED HEATING UNITS

have NO OBJECTIONABLE VERTICAL JOINTS!



Remove radiators only or entire combustion chamber without disturbing cabinet, plenums or duct work.

Have Distinctive Inspection and Servicing Features!

Plus

Time-Saving Installations with the Factory Assembled Heating Elements

Sell a Luxaire Cast Iron Furnace for your next Gas Installation!

Sell the Cast Iron Gas Furnace with the long-lived round combustion chamber—the cast iron furnace that has been ingeniously designed without objectionable vertical joints!

The rugged heating elements of these time proven units are now factory assembled to save you time and money.

Order one from your nearby Luxaire jobber and see the revolutionary sales producing features in the new 1952 models.

Few gas fired, cast iron units, if any, can match the low prices made possible by Luxaire's ingeniously simple design.

THE Luxaire C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

fueloil & oilheat

at last!

Fully Automatic WALL & FLOOR OIL FURNACES by KLEER-KLEEN

NO PILOT FLAME

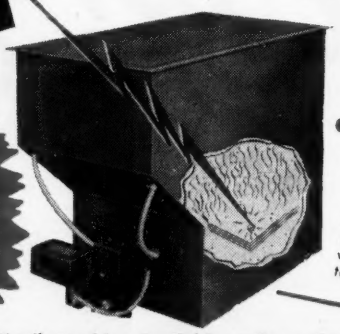
- 16 MODELS to choose from. For every home and every budget.
- FORCED AIR CIRCULATION guarantees proper distribution of warm air throughout the house.
- UP TO 100,000 BTU

All KLEER-KLEEN Models and All Parts Thereof Are Listed by Underwriters' Laboratories, Inc.

Furnace lights itself—regulates itself.

Yes . . . KLEER-KLEEN's new Electric Ignition burner ends old-fashioned pilot flame woes! Once the thermostatic controls are set . . . KLEER-KLEEN's Electric Ignition takes over for smooth, efficient operation under ALL conditions! Pilot-type burners available on option.

Just Set it... and Forget it! KLEER-KLEEN ELECTRIC IGNITION Does the Rest!



Distributorships Available in Some Areas

KLEER-KLEEN MANUFACTURING CO. OAKLAND, CALIFORNIA

America's Finest Furnaces

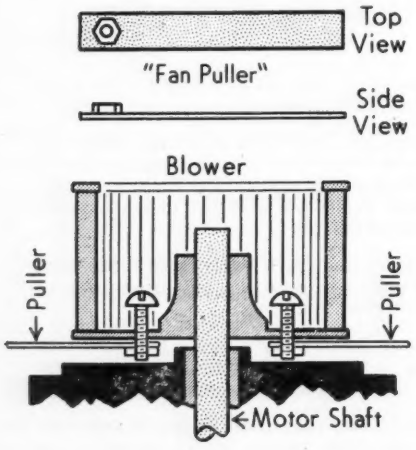
Everyday Snags

Homemade Blower Puller

Here's how to remove a blower wheel stuck to a motor shaft, even where there's not enough space to use a wedge or screwdriver between the wheel hub and the motor.

Make the two fan-pulling tools shown in the drawing. These consist simply of ¼-20 nuts soldered to thin strips of steel. Holes in the strips permit running screws through the nuts.

Drill two holes in the stuck blower wheel, close to the hub as shown, and



large enough to clear ¼-20 screws. Put a screw in each hole and run it into the nut on one of the strips. The strip serves as a handle to get the nut in place under the screw, and keeps the nut from turning. Tightening evenly on both screws forces the stuck blower wheel off the shaft in a matter of seconds.

* * *

Homemade Circuit Tester

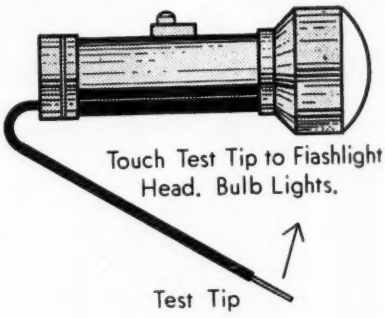
Beacuse you have to make up this electrical tester yourself, you'll take special pride using it. The tester is for everyday, on-the-job use in identifying wires, testing for open or closed circuits, locating grounds, checking controls, and a dozen similar operations.

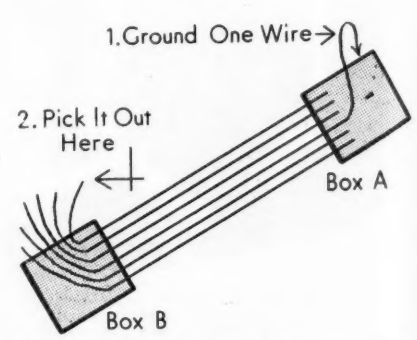
To make the tester, buy an ordinary cylindrical two-cell or three-cell flashlight and study its on-off switch. Then use your brains and inventiveness to add to the flashlight a test wire and test tip similar to those in the drawing. When you've finished altering the flashlight, touching the test tip to the metal head of the flashlight will turn on the bulb although the flashlight's ordinary switch is off.

You wind up with a self-powered tester that works without help from any line-voltage or low-voltage outside current. You use the tester without any danger of getting shocks or electrocuting yourself in damp basements or power plants.

The lower part of the drawing shows how this type tester was used recently to identify each of the six wires running from junction box "A" to junction box "B." In renovating a commercial burner job, these wires had been disconnected entirely in order to permit wiring fresh from scratch. One man, alone on the job, had to identify the old wires singlehanded.

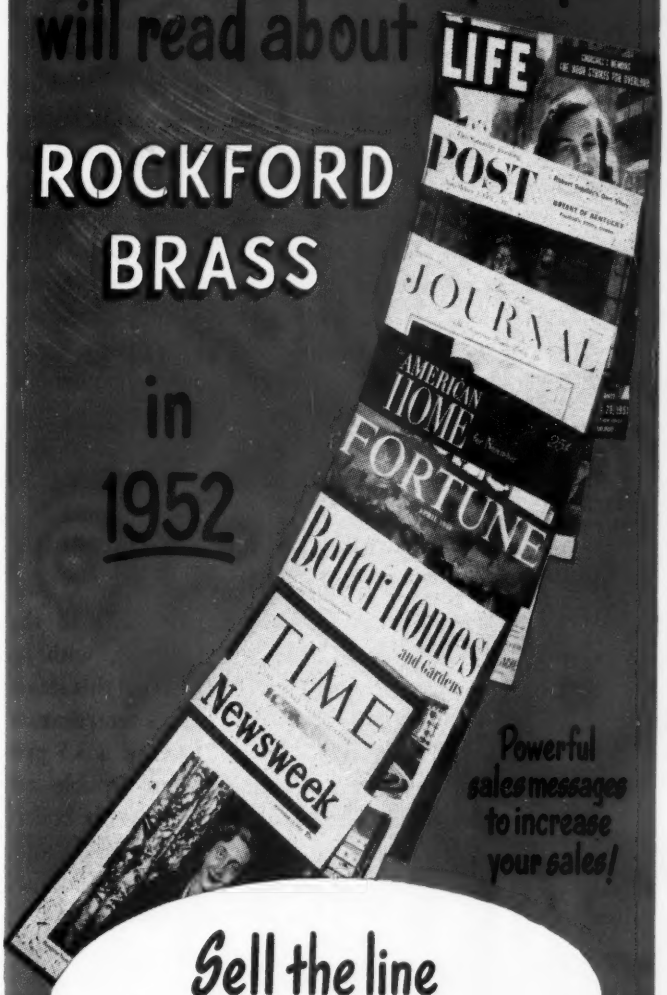
First, he grounded only one wire at box "A," making certain none of the other wires was grounded. He tied a





label numbered "1" to this wire in box "A." Then he went to box "B," held the metal head of his flashlight to the grounded metal junction box, and touched the test tip of the flashlight to each of the six wires coming into box "B" from box "A." Touching one

Over 92,000,000 people will read about ROCKFORD BRASS in 1952



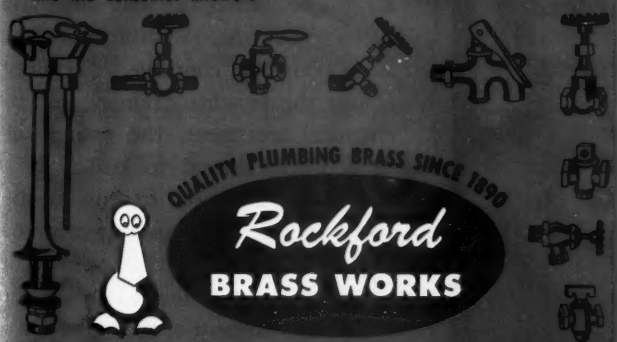
Powerful sales messages to increase your sales!

Sell the line the consumer knows!

Millions of readers of leading National Magazines are being referred to their licensed plumber in the 1952 Rockford Brass Works advertising campaign. Consistent, monthly messages to build sales for the licensed plumber.

Here is a profitable, volume building line — consumer accepted and preferred — advertising to build your sales — backed with over 60 years of experience in manufacturing Quality Plumbing Brass products and sold through plumbing wholesalers.

Tie in with this program for new customers and greater profitable volume. Write for complete catalog information and "sell the line the consumer knows".



QUALITY PLUMBING BRASS SINCE 1890

Rockford BRASS WORKS

ROCKFORD · ILLINOIS

Speedy installation plus means you get more — give more

with a VENKO PACKAGED UNIT BY Koven

MORE TIME saved
Completely Equipped For Quick Installation

MORE FUEL saved
Modern Design and Finest Controls

MORE SPACE saved
Compact — Rugged — Beautiful

MORE ECONOMICAL heat and hot water
2 Sensitive Aquastats

Today, consumers buy the boiler that gives greatest value—while installers specify the one that nets greatest profit. Venko answers both needs. Its finest fuel-saving controls and 2 sensitive aquastats assure the consumer of constant heat and hot water — such trouble-free, high priced service at such low cost. Venko offers the installer these genuine advantages: no waiting for missing parts. No expensive back calls. More profit through more and speedier installations. That's because Venko arrives with all parts properly installed—all wiring in place—all controls thoroughly tested. Yes, completely equipped for quickest installation.

built to fit the modern home nationally advertised

WATERFILM BOILERS, INC.
a division of L. O. KOVEN & BRO., INC.
154 Ogden Ave., Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.

box "B" from box "A." Touching one of the wires caused the flashlight to light up, and he tied to this wire a label numbered "1." Then he went back to box "A," removed the ground from wire "1," and grounded another wire which he labelled "2." He easily identified this in box "B," and labelled it "2." So on for all six wires.

* * *

Test for Adequate Draft

Facing pulsation or other trouble that can be related to insufficient chimney draft, a furnace-design expert uses these yardsticks to define poor chimney performance.

In a two-story house which needs a firing rate above 1.0 gph, the chimney should be able to develop a minimum draft of .10" with the burner in operation at least an hour to heat the chimney and with a smokepipe draft regulator blocked in its maximum-draft position.

In a one-story house heated by a fire size of 1.0 gph or less, the chimney should be able to develop .07" draft.

To make these maximum draft tests, run the burner for an hour. Block shut the usual swinging-disc type smokepipe draft regulator. Read the resultant draft using a test opening at the chimney end of the smokepipe.

Here's another way to test a chimney. Run the burner for an hour and block the draft regulator in its maximum-draft position. Read the draft using a hole in the flame observation door or firing door of the furnace or boiler. If this gives you an over-fire draft reading of .04" or higher, you can conclude you haven't got a leg to stand on in condemning the chimney for giving insufficient draft.

* * *

Ending Radiator Pounding

Rated for a maximum firing rate of about 2.5 gph, according to the contractor who installed it, with its flue passages expertly baffled this steam heating boiler gave a stack temperature of only 660° when fired by a 3.5 gph nozzle. An unexpected trouble resulted from thus overfiring the boiler, however. The steam mains and radiators pounded and hammered because slugs of water raced through them.

Chemical treatment of the boiler water seemed needed and was vigorously and thoroughly applied by the owner of the boiler. Acting on the advice of a power plant engineer he knew, first he put five pounds of trisodium phosphate and five pounds of cleaning soda into the boiler water all at one time, taking care to dissolve the chemicals thoroughly in hot water before putting them in the boiler. He kept the boiler steaming under five pounds' pressure for half a day, then drained out the chemicals and rinsed thoroughly three times with fresh water. But the radiator and steam main pounding continued. Trying to obtain the benefits of more effective chemical treatment, the owner then tried using several makes of boiler compounds supposed to stop foaming and priming. The pounding continued after all that, and the owner concluded it was not related to need for chemical treatment of the boiler water. He had tried many chemicals and at one time or another during his efforts

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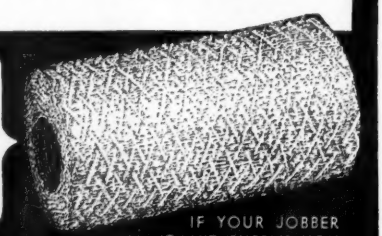
- Low-cost, long-life Honeycomb Filter Tube gives true depth filtration of precision-controlled density. Removes all troublesome impurities down to microscopic size. Gives home-owners better heat for less money. Increases dealer's profit by eliminating costly service calls.

Protect your profits with Fulflo Filters -especially engineered for Oil Burners.

Honeycomb Filter Tubes provide true depth filtration of precision-controlled density. Microscopic clarity of fuel means better home heating for less money.



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EASY to demonstrate! You can *see* why it saves fuel. With any heating, fuel economy begins with the fire—and this Iron Fireman Radiant oil fire has already proved itself in thousands of homes. Its radiant bowl-shaped flame is saving up to 30% on fuel bills over old-style burners it replaces. And here's why: the Vortex flame is located at the grate line, where all of its heat is applied directly to the important heating surfaces. Top efficiency is reached in a few seconds, for economical short cycling, as contrasted with conventional gun-type burners which have their flame enclosed by a heat-absorbing refractory pit.

For complete information on Iron Fireman oil heating equipment, dealer franchise and territories available write Iron Fireman Mfg. Co., 3290 W. 106th Street, Cleveland 11, Ohio.

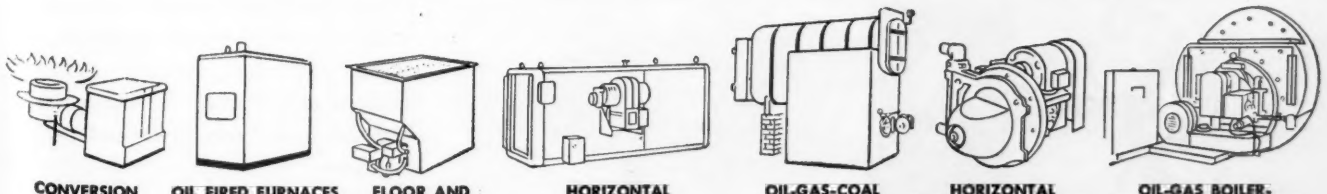
Why users like VORTEX

1. Cuts fuel bills drastically. Radiant, bowl-shaped flame applies *radiant* heat directly to heating surfaces.
2. No long warm-up period. Reaches top combustion efficiency in a few seconds.
3. Quick heat delivery permits exceptionally short cycling without fuel waste. Keeps home temperatures steadier.
4. Long life and thorough dependability.

Why dealers like VORTEX

1. Distinctive sales points, easily understood.
2. Very easy to install. Cuts labor costs.
3. Wonderful record of service-free operation. All moving parts outside furnace.
4. Backed by a *known* name, with constant nation-wide advertising.
5. Strong company backing—merchandising, sales training, engineering assistance, sales helps and up-to-date sales equipment.

THE IRON FIREMAN OIL LINE — for any kind of firing job



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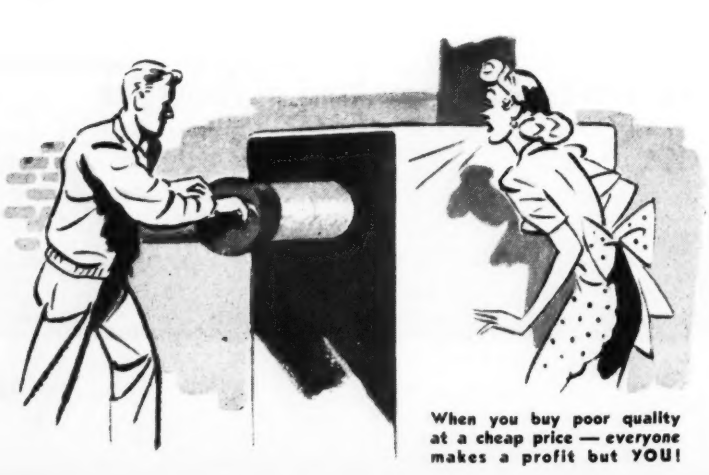
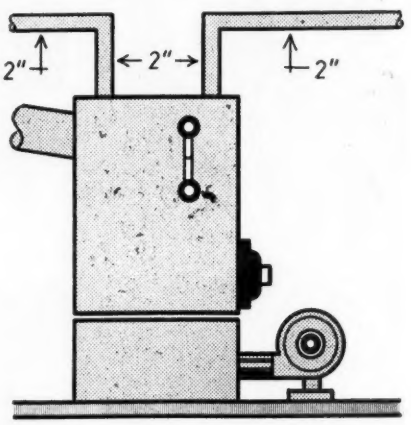
A poor quality draft control not only requires service attention *itself*, when it fails, but also causes *other* service calls due to fuel waste, sooting up, over-heating. The performance of the draft control directly affects the performance of your entire heating installation. You save pennies and lose dollars when you buy a poor quality draft control.

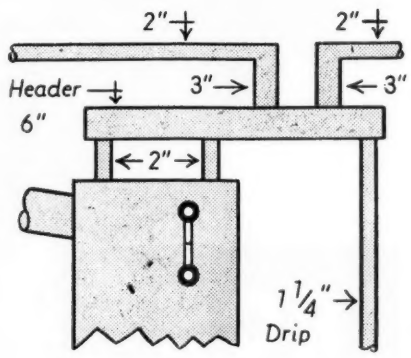


When you buy poor quality at a cheap price — everyone makes a profit but YOU!

the boiler water must have been nearly perfect.

His friend the power plant engineer then suggested that the two 2" vertical steam pipes coming from the top of





the boiler (see upper drawing) were too small and too short for the amount of steam produced by firing at 3.5 gph at fairly high efficiency; or that the boiler design was poor and produced extremely wet steam and slugs of water. In either case, said the power plant engineer, a 6" welded steel header of the type shown low in the drawing should end the trouble by reducing the velocity of the steam leaving the boiler and permitting entrained water and slugs of water to separate out of the steam. The 1¼" drip line goes, of course, to the bottom of the boiler.

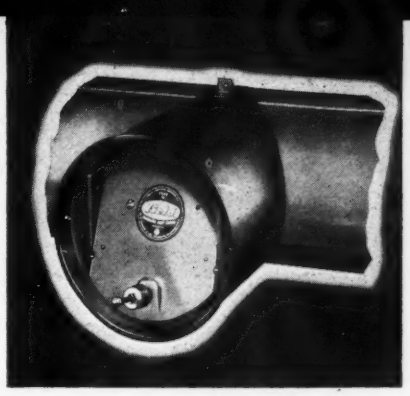
Installing the 6" dripped header cured the trouble entirely. Once rid of the pounding in the steam mains and radiators, the owner promptly installed additional radiation in the machine shop heated by the boiler. Now he's using a 4.0 gph nozzle and 130 lbs. atomizing pressure and says he's got perfect heating.

Bad Traps Damage Boilers

Three years after he had arranged to convert this large commercial heating plant to oil, an engineer had to visit the plant because the owner was complaining that the oil consumption was running 30% to 40% higher than the engineer had estimated it should run.

As he got near the boiler house, equipped with six boilers ranging in rated capacity from 150 to 300 horsepower, he saw steam pouring from half a dozen vent pipes. Checking on this once inside, he learned that all the returns of the two-pipe low-pressure steam heating plant were full of steam because faulty thermostatic traps were failing to close. This plant had almost a thousand such traps at the return ends of the cast-iron standing radiators and pipe coil radiators in the dozens of buildings heated by the plant. The steam the heating engineer had seen escaping from the boiler house was coming from the vent lines of the condensate tanks in the basement of boiler house. The engineer found an even greater indication of fuel waste than this, however, as he walked around the buildings heated by the plant. Probably because the underground dry return lines running back to the boiler house were undersize, pipe tees had been installed in them and the side outlets of these tees had been fitted with 1¼" air-vent pipes located outdoors and 12 to 15 feet high. Every one of these pipes was shooting a blast of steam into the sky. As though that wasn't bad enough, streams of boiling water were pouring steadily from six or eight of these pipes.

Latching on to the complaining owner of the plant, the heating engineer first pointed out that the men in the boiler house were feeding the boilers hundreds and hundreds of gallons of make-up water every hour. Not treated in any way but just poured raw and cold into the boilers, this make-up water was ruining the expensive boilers rapidly. The boilers were being given the excessive make-up water, of course, because of the vast amounts of steam and condensate escaping from the heating plant. This escape was caused mainly by bad thermostatic



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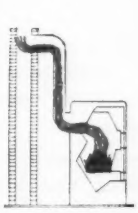
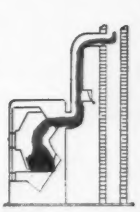


WITHOUT A FIELD CONTROL

Because the chimney draft is greater than needed for proper combustion, costly heat is drawn up the chimney and wasted.



WITH A FIELD CONTROL

Fuel waste is ended! Barometric pressure opens the gate and all excess draft is automatically checked by the control.

field **draft controls**

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traps in the system, which failed to close when steam reached them.

The heating engineer listed for the owner these reasons for going after the bad traps immediately:

1. The bad traps are causing the escape of steam and condensate and causing the boilers to receive tremendously excessive amounts of make-up water. Replace every faulty thermostatic trap to end the abuse the boilers are now undergoing.

2. The bad traps are causing great amounts of live steam and steaming hot condensate to escape. The resultant waste is intolerable. Replace the traps or reduce the fueloil consumption to its proper level.

3. Steam admitted to the dry return lines by thermostatic traps that always remain wide-open is causing nearby traps in good working order to close when they should be open. Closed when it should be open, a trap causes its radiation to pocket water and air. To try to force heat from radiation which is air-bound and water-bound in this way, the men in the boiler house have been using higher and higher boiler pressure until now they are using 13 lbs. pressure for a system that once operated properly and adequately with the steam pressure no higher than eight pounds.

4. The condensate pumps in the boiler house, used to lift water from the underground condensate tanks and feed it to the boilers, are giving trouble because they are handling overly hot, almost boiling condensate. The boiler house men are playing cold water hoses on these pumps and their suctions lines to keep the pumps in operation. Replace the faulty thermostatic traps to wind up with fairly cool condensate that the pumps can handle properly.

To test in the boiler house every trap of this heating system was the only way out of the trouble, said the engineer. Buy 50 new trap innards to start out, install them, and steam-test the 50 old trap innards removed when the new ones were installed. Wind up using only brand-new traps innards, known to be in good working order, and used trap innards you know are in good condition because you have steam-tested them in the boiler house. Though in this particular case this work may take the full time of a maintenance man for up to three months, the heating engineer told the owner of the plant, there is no substitute for the work.

Avoiding Sludge Trouble

The chief engineer of a power plant that uses 10,000 to 20,000 gallons of truck-delivered No. 6 oil every day says that his method for avoiding sludge trouble consists of drawing oil right from the bottoms of his storage tanks, thus providing no space in the tanks for sludge to collect. The suction lines he uses regularly are 1½" to 2" from the bottoms of his storage tanks, and are at the low ends of tanks which slope slightly. He uses sludge treatment compounds only to keep his strainers, oil heaters, and tips in good condition, and not to treat sludge collected in his tanks.

He has higher suction lines for emergency use only, running down to within 30" of the tank bottoms. One of these came in handy one time when, because a seagoing tanker had a leak,

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SID HARVEY'S REBUILDS THEM ALL
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To FLOAT VALVE MANUF. FOR REPAIR
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To TRANSFORMER MANUF. FOR REPAIR
To MOTOR MANUF. FOR REPAIR
To AQUASTAT MANUF. FOR REPAIR
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No need to make separate shipments to a dozen or more factories—and keep track of each separate shipment . . . and wait . . . and wait!

And GOOD—Sid Harvey's Rebuilt Parts are equivalent to New. Same performance — same guarantee — same appearance. That's Better than good!

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LOW-PRICED BOILER

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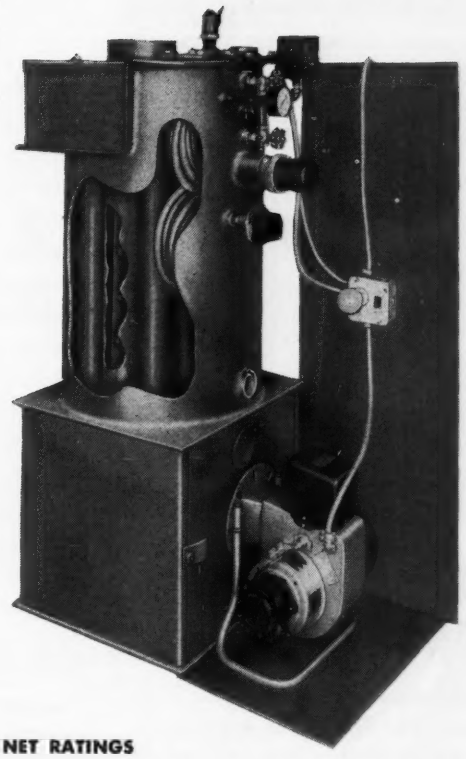

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With the packaged unit, you also pocket savings on installation costs. The Penn Round Boiler Packaged Unit is delivered with burner, circulator and controls factory wired and completely mounted on the boiler. Coils for heating domestic hot water are built in and units are also available with built-in expansion tank.

In the Penn Round Boiler, replaceable tubes are completely submerged for tube protection and faster heat transfer. Steam chamber is positioned above top of tubes.

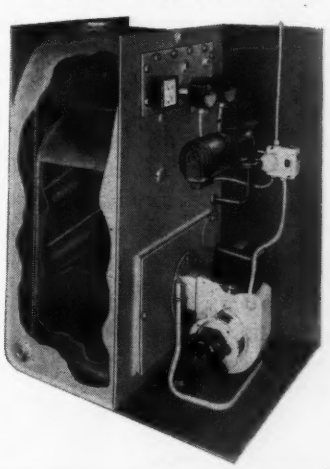
To get specifications and prices for both steam and hot water models, just mail the coupon now.

SBI NET RATINGS

	RV-66	RV-76	RV-96	RV-132
Sq. Ft. Steam	275	320	400	550
Sq. Ft. Water	440	510	640	880
BTU	66,000	76,000	96,000	132,000

The NEW Pensteel

Packaged Heat Unit



This new "package" calls for fewer connections than any other unit on the market. Burner, circulator and controls factory-wired and completely mounted on the boiler. No foundation needed . . . basement engineering and assembly eliminated. Steam and hot water models available in 7 sizes ranging from 99,600 BTU's (gross) to 396,000 BTU's (gross).

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Acme DUAL 8 BOILER BURNER UNITS

ACME HEATING DIVISION

THE UNITED TOOL and DIE CO.

a truck delivered about 3,000 gallons of salt water. Switching to the high, emergency suction line permitted using good fueloil high in the tank for a few hours until the salt water could be pumped out into a tank truck and taken away.

* * *

Emergency Firing

Summoned to a bakery on a sub-zero night because the big bake-oven burners had faltered and then failed entirely, a service man investigated the trouble and concluded that the suction line supplying the pump set had sprung a bad air leak. Getting at the line would not be easy, he found, for it was more than 100 ft. long outside the bakery and for the most part was located under road pavement.

In half an hour, thanks to help speedily given him by the owner of an oil company, the service man had a truck on the job loaded with 1,000 gallons of No. 2 oil. The job used No. 6 oil regularly, but No. 2 would do in a jam, the service man reasoned. With the truck backed right up to a window near the oilburner pump set, the service man ran ¾" copper tube suction and return lines from the pump set, through an open window, and into the top of a truck compartment.

He ran into but one unexpected snarl. The pump set had been handling heavy fueloil satisfactorily, but would not pump the thin domestic fueloil. Removing thick, heavy-paper gaskets from the pump and substituting tissue-paper gaskets overcame that difficulty. The bread trucks went out two hours late that morning, but the service man's ingenuity was responsible for their going out at all.

* * *

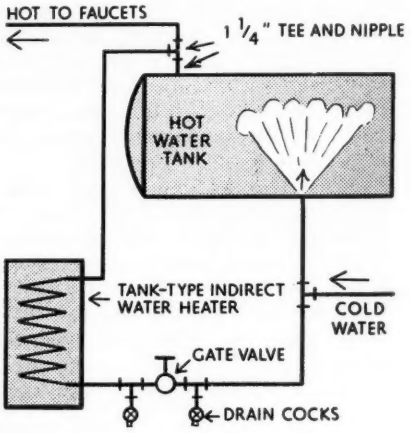
Hot Water Tank Headaches

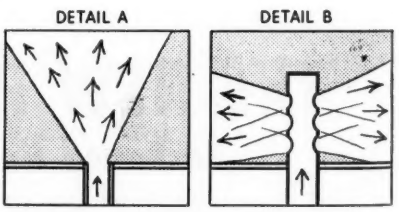
Back in the late 1920's and early 1930's, says a New England oilburner dealer, he pioneered putting in the first year-round water heating layouts in his locality. He used tanks at that time, of course, and one of his rules was that the tank had to have a minimum diameter of 20" to avoid mixing incoming cold water with hot water stored in the top of the tank. That meant 70-gallon minimum tank size, in round numbers.

As time went on, smaller and smaller hot water tanks were installed, tanks as small as 30-gallon size in fact, and the rule about 20" minimum diameter for the tank was discarded.

This old thumb rule came back to this dealer's mind recently, however, in connection with the most troublesome year-round hot water job he has encountered in years. This dealer tried to straighten out the job after four or five other burner dealers and heating contractors had failed. He also failed, although he arranged things as the accompanying diagram shows.

The trouble is that drawing only about 15 gallons of water from the 40-gallon tank causes the hot water to run too cool, even though to start





out the tank is fully heated. The tank-type indirect water heater is large enough, for it can heat a cold tank fully in less than two hours. There's a 1¼" tee and nipple above the tank, as the diagram shows, so that water is not rushed through the water heater coil when a hot water faucet is opened. Detail "A" shows how cold water used to enter the tank, shooting upwards and mixing with hot water in the top of the tank. Detail "B" shows how the contractor tried to improve on this. He made the threaded opening in the bottom of the tank greatly oversize, then

ran into it a nipple with a long running thread. Soldered shut at the top, this nipple has horizontal drilled-through holes supposed to spread the incoming cold water over the bottom of the tank as Detail "B" indicates.

The owner still can't draw more than 15 gallons of water without getting water cooler than 120°, though the entire tank is 150° to 160° to start out. The discouraged burner dealer concludes he'll have to tell the owner that his 40-gallon tank will have to be replaced by a much larger tank with a minimum diameter of 20". The reason this job hasn't a tankless heater is that the boiler is fired at less than 1.0 gph, therefore the owner thought a tank-type set-up was needed to give him a perfect supply of hot water.

* * *

Overloaded Circuit

The 15-ampere fuse of this conversion burner installation started blowing mysteriously. Some of the new fuses the dealer applied to the burner circuit lasted two weeks, and others blew in two days. Testing the wiring did no good because it revealed no defects. Replacing the burner motor, ignition transformer, and control panel failed to stop the fuse blowing.

Then one day when the dealer had rushed to the house to replace another blown fuse, a maid called to him, "Better get in that new fuse in a hurry because my ironing's been held up three hours already!"

Acting on this tip-off, the dealer investigated the house wiring circuits and learned that since he had installed the burner a new outlet had been put in for an ironing machine. Sure enough, the electrician had done things the easy way. Instead of using 40 ft. of BX cable and running this to the front of the basement where the meter and fuses were located, he had simply tapped the ironing outlet into the burner electrical supply line. That evening, the dealer took only 15 minutes to prove to the owner that with both the thermostatically-controlled heating elements of the ironer "on," the 15-ampere fuse would blow when the burner attempted to start.

The owner stared pop-eyed when the dealer grabbed a pair of big shears, cut the plug right off the cord of the new ironing machine, and said, "When your electrician returns to unhook this new receptacle from the oilburner circuit, tell him to put a new plug on the ironer. And tell him his cheap trick cost me some $40 worth of time, worry, and new fuses."

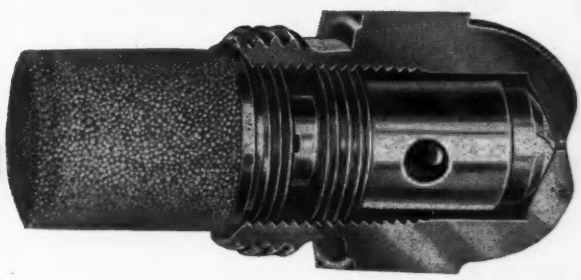
* * *

Water Pump Control

"You can't look through oilburner control catalogues without learning that you can easily buy sensitive or adjustable-differential pressure controls at fairly low prices," observes a burner dealer.

"In this house that I'd newly equipped with a tankless water heater, sometimes water came from the hot water faucets slowly and very hot, and sometimes it ran fast and barely hot enough," he goes on. "The owner started complaining. I got nowhere making certain the temperature control on the boiler was not lagging in starting the burner when the boiler chilled a bit.

MONARCH NOZZLE FILTERS SOLVE CLOGGING TROUBLES



Take a MONARCH Tip (Stainless Steel) . . . add a MONARCH Porous Bronze Filter . . . Result—Tops in Nozzle Performance without troublesome clogging from dirt!

The MONARCH Filter is equivalent to 200 mesh screen but has the advantage of being strong and rugged one piece construction —no messy felt or numerous parts to lose on the cellar floor. Costs no more than standard 200 mesh screen strainer.

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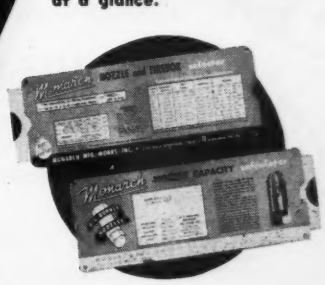
"48" Nozzle Box

Don't jumble your nozzles loosely in your tool box like "nuts and bolts" if you expect them to be usable. Carry as many as 48 nozzles securely in this sturdy, compact steel box.

New

Nozzle-Firebox Slide-Chart

No more digging through catalogs for proper nozzle capacities for certain loads, correct fire box sizes for different firing rates, or nozzle capacities at different operating pressures. This pocket slide-chart gives all these (and more) figures at a glance.



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"But I got somewhere when I started checking his water pump system, for I found out the pressure control used to start and stop the pump motor was either out of whack or of poor design for the job.

"The pressure in the basement water tank dropped to 25 lbs. before the pump would start, and ran up to 48 lbs. before the pump would stop. Sometimes the water pressure in the basement was as low as 25 lbs., and then the hot water would run slow and hot from the faucets. Other times the basement water pressure would be above 40 lbs., and then water ran fast and cool from the hot water faucets.

"I sold the owner what he needed, a new pressure control for his pump. Adjusted to start the pump at 30 lbs. pressure and stop it at 37 lbs., it ended the hot water trouble."

* * *

Stop After-Burning

Loss-of-prime trouble on this pressure burner job was ended when a well-informed service man replaced the burner's old single-stage fuel unit with a new two-stage fuel unit. But then he noticed the job still was not nearly perfect, for the nozzle coked badly within a few months. Using a flame mirror, the service man decided to blame the nozzle coking on drooling and poor shut-off when the burner stopped with its firebox red hot. It dawned on him then that the leaky suction line that had caused the loss-of-prime trouble was responsible for the poor shut-off and the nozzle coking. Getting air and oil from its suction line, the new two-stage fuel unit would send to the nozzle line sort of a froth made up of fueloil and air, even if it would not lose prime as the old single-stage did. And with air and oil in its nozzle line instead of 100% oil and no air, of course the burner would drool on stopping. You get sharp cut-off only after you rid all of the air from a fuel unit and a line to a nozzle.

Other remedies could have been used for the trouble, but the remedy selected by this service man was a solenoid oil valve in the nozzle line, installed as close to the nozzle as possible. He reports that this cured the trouble.

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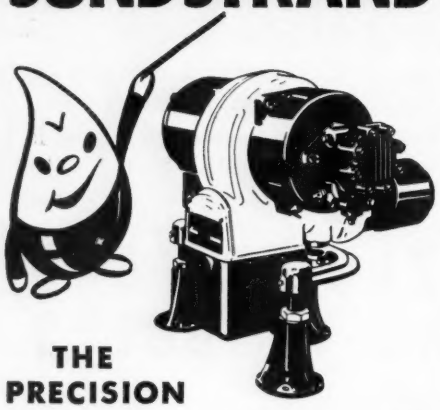

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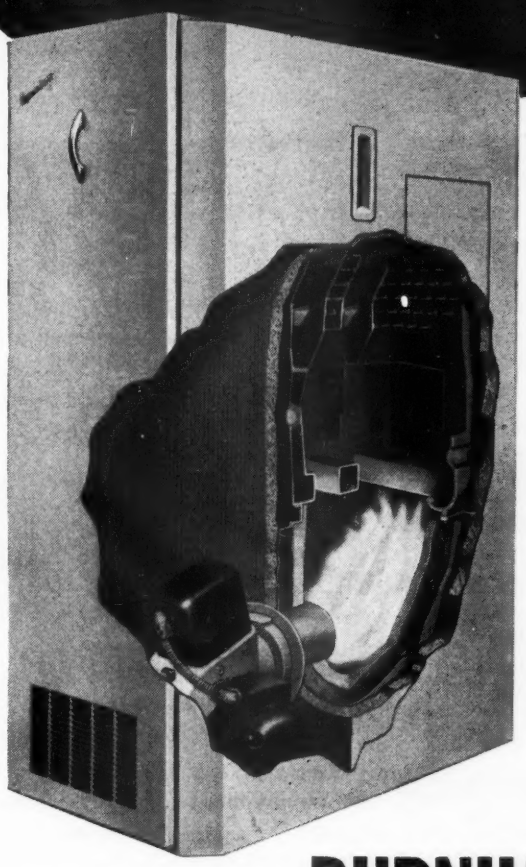

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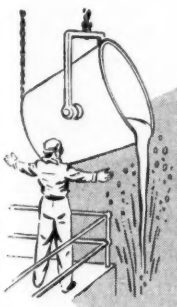

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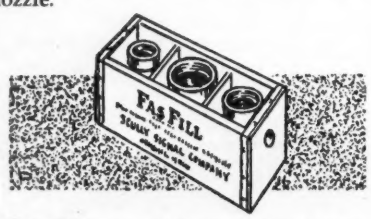

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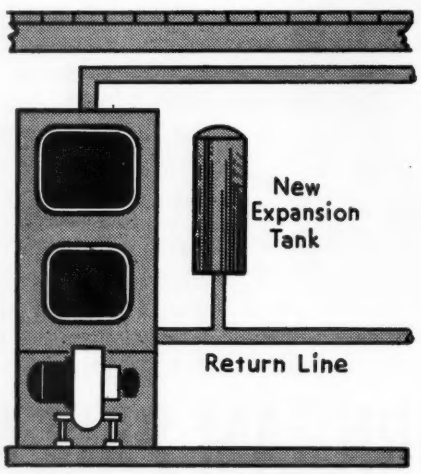
Readers' Problems

Q. Low headroom not permitting the expansion tank over the boiler, I'm connecting the tank to the return line and vertically as my drawing shows. This job never had a tank before, worked fairly well, but will work better with a tank. Please answer: 1. Will the tank work all right as I show it? 2. What will I lose in not having the tank located over the boiler? This is a gravity circulation system without a circulator.

S. F., Joplin, Mo.



A. 1. The tank will work properly as you show it. 2. Located over the boiler and piped properly for this, the tank could collect air released by the boiler water when water newly added to the system is first heated. Your arrangement lacks this feature. However, this disadvantage can be offset by venting properly the radiators and highest hot water mains of the system. Your diagram does not show the valves needed to service a waterlogged tank, but you should install valves for this. Make certain you install a tank which is air-tight and suitable for use as a closed expansion tank.

Q. See accompanying drawing. Finding it in the wrong place on a steam main, I removed an old hot water control and put it properly on the side of the boiler. The owner then complained of steaming radiators. He turns off his main switch nights in summer to save oil, and now the first run of the oilburner in the morning puts some steam in the radiators. Even with the control set at 150 and proper operation the rest of the day. Why is this and how can I correct it without putting the control back on the steam main?

C. W. D., Dowagiac, Mich.

A. The control now used on the side of the steam boiler responds too slowly for the rapid heating up of the boiler after the owner starts the burner mornings. The boiler water reaches 212°F. before the heat-sensitive element of the control reaches 150°F. and stops the burner. End the trouble simply by replacing the control with one of the sensitive, rapid-acting immersion controls now featured for precisely this type of service.

* * *

Q. This large cast-iron boiler has crownsheet uptake openings labelled A, B, and C in my diagram, and I'm told that the oil consumption can be

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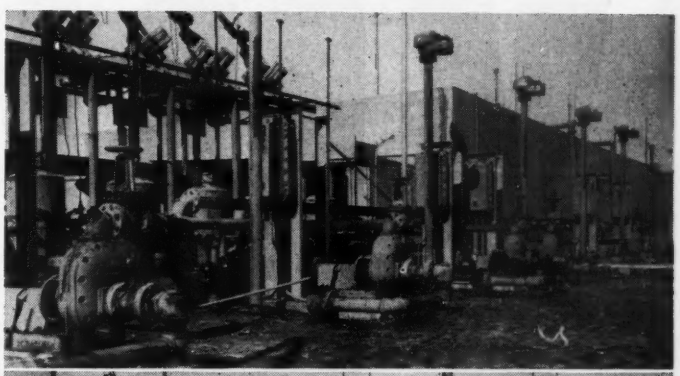
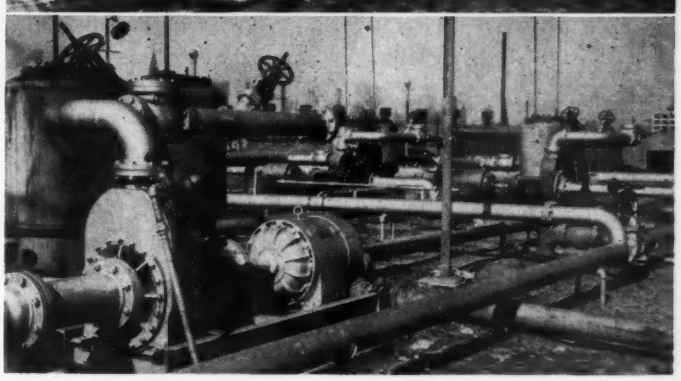


From underground storage this battery of 4-inch Marlows delivers gasoline to one section of the loading rack. Pumps, operated by remote control from the control tower, can load a 1900-gallon truck in 5 minutes. It's a fast, efficient and virtually maintenance-free installation . . . and it takes *good* pumps to do the job. It takes Marlows.



Through 1800 feet of piping another battery of pumps — these Marlow 6-inch high-pressure models — serves the loading rack which has automatic pressure and velocity control of pump. As with the others, the pumping, though intermittent, is always smooth — thanks to the Marlows' ability to prime and reprime automatically. They won't vapor lock either — and they operate quietly and economically because of their exclusive free-flow design.

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cut 25% by blocking these to increase the distance the smoke travels in the boiler and to cut the smokepipe temperature. My first question: Is that statement correct?

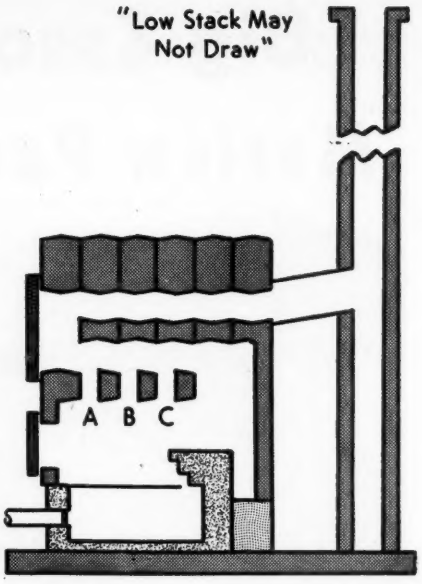
But the stack is low for the size boiler, according to the boiler manufacturer's data sheets. Low stack may not draw. My second question: In view of this, shouldn't I leave open the uptakes A, B, and C?

C. U. S., Eau Claire, Wis.

A. Without using combustion testing instruments on the job, you can't handle this type of problem. A draft gage can tell you whether or not the openings in the front of the crownsheet should be open or closed. If you can maintain proper over-fire draft with these openings closed, they should be closed. Otherwise they should be open.

Instruments similarly are needed to tell whether or not 25% of the fuel can be saved by closing the openings and reducing the stack temperature. Use a CO_2 analyzer and stack thermometer to find out if the stack loss is high. If it is high because of high stack temperature, then very likely you can cut the oil consumption 10% to 25% by making the improvements which proper use of the combustion testing instruments will suggest to you.

"Low Stack May Not Draw"



Don't tinker with combustion problems of this type. Instead, buy a complete set of combustion testing instruments and learn how to use them in an expert manner. Using instruments expertly on jobs never combustion-tested before, you can cut the oil consumption of many installations by more than 25%.

* * *

Q. Have read your magazine quite thoroughly for some time. Have a problem which to my knowledge has not been disclosed along this angle although different versions may have appeared.

This job is a pot burner circulating furnace, fuel used is kerosene. It has a thermostat controlled high fire. When a call for high fire comes from thermostat the constant level valve is acted upon by an electric head which causes the valve to deliver a predetermined and set amount of oil. This electric head through a set of contacts also starts a small fan which supplies the extra air needed for high fire. I cleaned and adjusted this furnace about September 1 this year. I found the stove pipe nearly full of soot along with a very dirty pot and place where clean-out door usually is found in a chimney I found a ventilator affair for expelling air from room. I covered this up with a piece of sheet metal. I adjusted the

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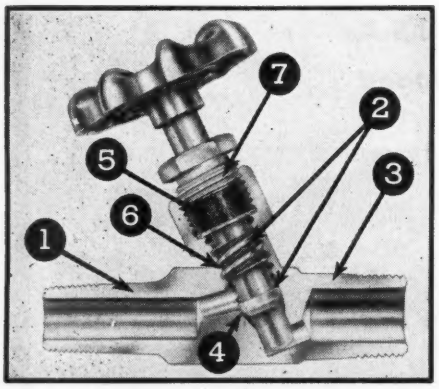

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Michigan City, Indiana

draft at the breeching of furnace to about .06" of water. The stove pipe is 6" in diameter 20' long with three elbows. I replaced five lengths of stove pipe and made all joints as tight as possible.

I raised fuel supply tank 18" to have minimum of 7" from bottom of fuel tank to constant level valve. This building houses a one room school. The chimney is approximately 24' high from floor with smoke pipe tapping in 10' from floor.

Was called first week of November that furnace was sooting badly. I found pipes with about ¾" soot and place that I covered up at base of chimney expelling a fine soot into the room. Upon removing this cover, I removed a good bushel of soot from this location. The chimney seems to be in good shape and is not near any other building or high trees. The draft has always been constant whenever I checked it. Would like to know how I can clean up this job and what I've missed. What causes the soot formation in pipes and base of chimney?

P. V. O., No. Clarendon, Vt.

A. The important service step you seem to have omitted lies in determining the proper oil flow rates for the pilot and the high fire and adjusting the burner for precisely these rates. It may be necessary for you to obtain information on these oil flow rates from the manufacturer of the particular burner.

Aside from this, a unit of this type tends to stay cleanest when it burns considerable oil each day, thus develops sufficient temperatures for complete combustion. In certain cases, such units have stayed cleaner when the temperatures were lowered at night and raised each morning. The resultant long "on" each morning developed high temperatures which burned off soot specks and soot films which were formed on the furnace heating surfaces during the ordinary short "on" periods. Installing a clock thermostat and using considerable temperature reduction at night will help keep the furnace clean.

We have available at $1.00 a book which has dozens of ideas on adjusting vaporizing burners. The book is called "Vaporizing Burner Service."

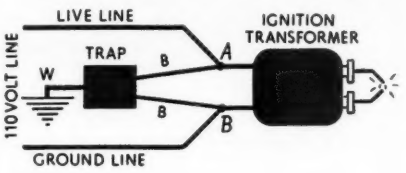
The fact that you are using kerosene on this job is a big help and gives hope that you can arrive at completely satisfactory operation.

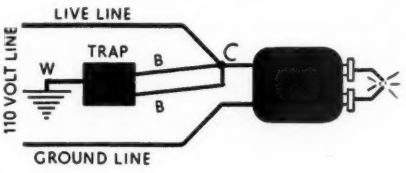
* * *

Q. Please settle an argument. I find most service men always set spark points of pressure burners slightly ahead of nozzles, but at times I set spark points flush with nozzle to make certain they stay clean. Do you agree with me? You know any burner manufacturers who agree?

S. T., Lakewood, Ohio

A. Always obtain and follow the burner manufacturer's advice regarding the all-important setting of the spark points. We agree with you that in certain burners the points can be





flush with the nozzle. The chief engineer of one burner manufacturer recommends setting the points flush with the nozzle when using a nozzle having a spray angle greater than 60°, but warns that the tips must be close as possible to the nozzle without giving danger of the spark's jumping to the nozzle. He says make distance "X" in the accompanying drawing as short as feasible, and indicates that making "X" equal to one-half inch usually works out very well for him.

* * *

Q. Firing 1.0 gph in this forced-air furnace with a net output of 105,000 Btu, I tried to use the CAC principle. I tried increasing and decreasing the blower speed without appreciable results. I cannot get the 100° rise which is a "must" for the slower speed. The furnace evidently is oversize, for I cannot get a higher register temperature than 140°. The design temperature of the heating plant was checked over by

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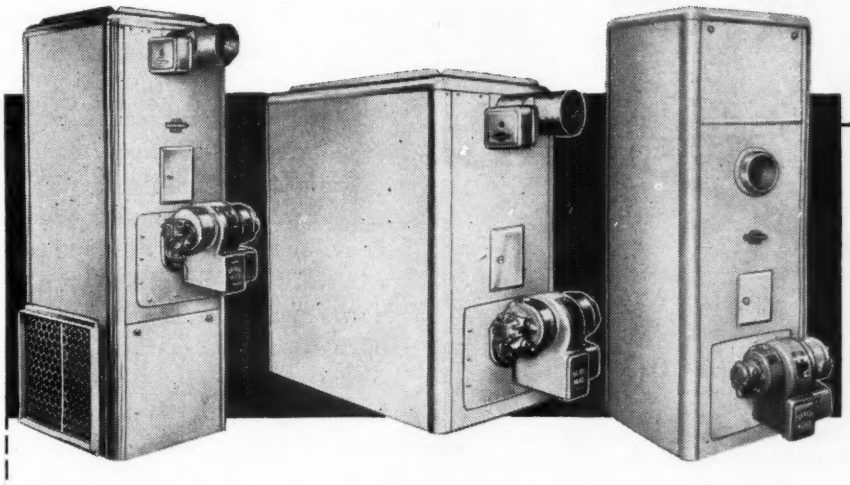

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me thoroughly with the following results. The fpm was adjusted according to the register temperature which is 140° and all stacks and registers were found to be perfect. I have the limit set at 175° and no matter what I do I have yet to have the limit shut off the burner. As a result I have not been able to raise the register temperature above 140° and the bonnet above 150°.

The question: Why am I not able to get the 100° rise? I slowed down the blower but the most I can get is a 70° rise before the thermostat stops the burner. Register temperature 140°. Perhaps the furnace design is wrong. It is constructed of eight gage steel with a 12" separate blower. But what puzzles me is the intake is 20" x 26". Why is the cold-air return larger? The warm air discharge is 20" x 20". This is the first furnace that I have seen that has a larger return than supply register. Shall I install a large damper in the cold air plenum to reduce the volume of cold air entering the blower cabinet? I have a cold air return in every room and a damper blade in every warm and cold air return. Reducing the cold air return has not affected the net result. Is it possible I am missing the boat and that the reason I am unable to get the desired rise of 100° is that my input is too low? I am completely puzzled.

P. E., Oak Park, Ill.

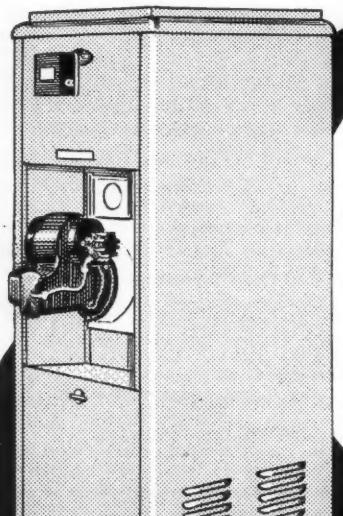
A. If in mildly cold weather the thermostat keeps stopping the burner and thus annoying you while you are trying to test for the maximum warm-air temperature at the furnace, either set the thermostat for its highest temperature and open some windows near it, or better still put a jumper across the thermostat circuit terminals of the burner panel. You may have to run the burner for one hour continuously to do your testing.

The fact that the furnace has a return-air connection larger than its supply-air connection is nothing to worry about or take into consideration as you balance this job and tune for CAC. If you want the reasons for the sizes of the furnace's duct connections, ask the furnace manufacturer.

Whatever you do, don't use a considerably higher firing rate merely to increase the temperature rise through the furnace. Don't depart from following this rule. Fire as lightly as possible, and still heat the house properly on coldest mornings. Use the lowest gph rate that heats the house properly.

Seemingly your only trouble lies in the fact that you have not slowed down the circulating blower sufficiently to obtain the 100° rise you desire, then balanced heat distribution by adjusting the supply-duct dampers for suitable fpm readings from each supply register. Use any method you prefer to run the circulating blower 35% to 50% slower than the slowest speed you have tried so far. If you can't switch to a smaller diameter adjustable pulley for the shaft of the motor that drives the blower, then try to switch to a much larger pulley wheel for the blower shaft. Or this may fit your problem: If you are using a 1750 rpm motor to drive the circulating blower, try switching to an 1125 rpm motor. Of course, these are approximate motor speeds, for we mean try switching from a four-pole motor to a six-pole motor.

Engineered for the fuel your customers want to use . . .



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THE COMPLETE LINE of gravity furnaces and Winter Air Conditioners designed for efficient, economical operation . . .

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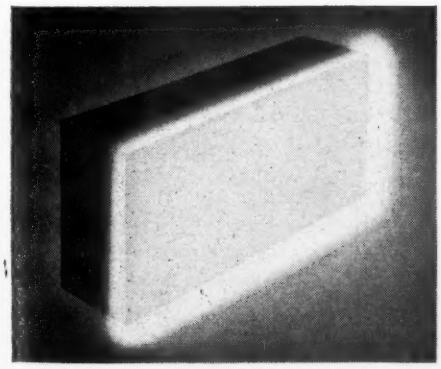
WESTERN OFFICE AND WAREHOUSE: 1933 WENTWORTH AVE., CHICAGO 16, ILL.

Over 110 Years of Heating Experience at Your Service

"Now I heat up faster and save money on fuel with J-M Insulating Fire Brick!"

"We knew our 'skin-heat-in-seconds' would get you on the job in a hurry!"

You can build better fireboxes with this insulating fire brick that saves up to 10% on fuel



"Skin-heat-in-seconds" of J-M Insulating Fire Brick is demonstrated in this photograph. Within seconds after the burner goes on, the entire inside surface of the firebox becomes white-hot. Laboratory tests prove that this brick can save up to 10% on fuel.

IT'S EASY to make *lifetime* customers by saving them up to 10¢ on every dollar they spend for fuel. *Just build their oil burner fireboxes with J-M Insulating Fire Brick that saves fuel by getting a skin-deep curtain of white-heat intensity within seconds!*

Customers will also appreciate the fact that J-M Insulating Fire Brick in their firebox results in far less soot, smoke, and odor. And its light weight, cellular construction contributes substantially to quieter oil burner operation.

You'll find it easy to install J-M Insulating Fire Brick. Cut them quickly with a hacksaw blade . . . use them to build any shape or size firebox specified by the oil burner manufacturer. Recommended brick for domestic oil burner fireboxes are JM-20, JM-23, JM-26. For industrial use . . . JM-28 and JM-3000.

See your J-M Distributor for further information about these brick that heat up faster and save more money . . . or write Johns-Manville, Box 60, New York 16, New York. In Canada, 199 Bay Street, Toronto 1, Ontario.

For sealing against gas and air leaks, use J-M FIREITE* Asbestos Furnace Cement. For lining hearths of rotary burners, use J-M STANDARD FIRECRETE* — a hydraulic setting refractory — ready for use in 24 hours.

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JOHNS-MANVILLE JM PRODUCTS

Johns-Manville INSULATING FIRE BRICK

For "Skin-Heat-in-Seconds" in Fireboxes

To obtain the proper, reduced air flow through the blower by throttling greatly the return ducts or supply ducts is not good practice on a job where the basic trouble lies in the circulating blower's keeping the furnace too cool by handling entirely too much air. Yet as an expedient, used temporarily until you apply a proper method for slowing the circulating blower greatly, you should be able to get the 100° rise by putting all the return-duct dampers in their nearly-closed positions, or doing the same thing with all the supply-duct dampers. To prove a point related to your problems, we recently reduced by 80% the area of a filter simply and quickly by putting over the intake side of the filter a piece of cardboard which cut the filter area to 20% of its original area. Try that, just as a stunt to prove a point. Or instead, reduce the area of the cold air intake connection of the furnace to about 80 sq. in., just as a stunt to prove a point.

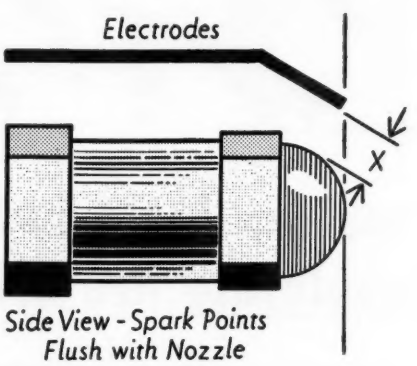
When you have arrived at the proper, reduced air flow through the furnace that gives you 100° rise with the burner running continuously for an hour, you will find greatly reduced fpm readings at the supply registers, of course. You may obtain readings as low as 200 to 400 fpm. If you want higher readings to jet the supply air into the rooms and thus give "reach" of warm air to all parts of certain rooms, you can obtain these by reducing considerably the areas of the supply registers, using blocker plates at the registers.

* * *

Q. We've got a radio trap with one white wire and two black wires, don't know how to wire it to ignition system giving interference on radio, and are told you have published two different diagrams for this. Please give us wiring diagrams and instructions.

H. D., Hamilton, Ohio

A. First try the upper accompanying wiring. Make certain the oilburner chassis is well grounded, and ground the white wire of the trap by connecting it to the chassis. Wire the two black wires of the trap to "A" and "B," which are the 110-volt input wires that run to the primary of the oilburner ignition transformer.



Side View - Spark Points Flush with Nozzle

If this fails to lick the trouble completely, try the lower wiring diagram. Here both black wires of the trap are connected to "C," the 110 volt live wire going to the ignition transformer.

Where the radio interference trouble is hard to eliminate, you may have to try out both wiring diagrams to find out which is most effective for the particular job.

* * *

Q. I have an unusual problem concerning a closed one-pipe single-circuit hot water plant having about 11 radia-

Now It's EASY...and PROFITABLE
to do your own ductwork with
ADELTA Standardized Fittings

You can make more profit on every warm air job when you use easy-to-assemble ADELTA standardized ducts and fittings. There's no need for special sheet metal equipment or highly trained personnel. Adelta precision-made fittings—with exclusive time-saving features* like those illustrated—make it easy for you to do the whole job quickly . . . more profitably.

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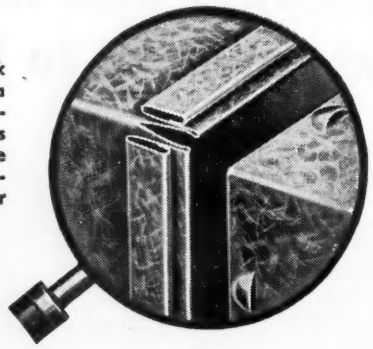
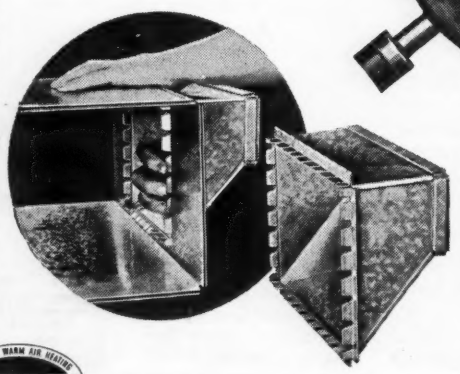
Our exclusive One-Piece Snap-Lock Cleat is featured on all Adelta units, including take-offs and reducers. Just push two sections together, and presto!—you have a rigid, leakproof joint . . . without any crimping, notching or drilling to slow up the job.





Adelta's pre-notched collar edges save time on every collar connection. No bothering with snips, pliers and hammer. Just push the collar edges closed with your fingers to get a tight, permanent connection.

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CHECK FEATURE for FEATURE

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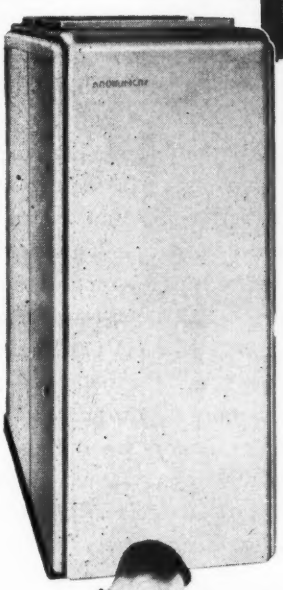
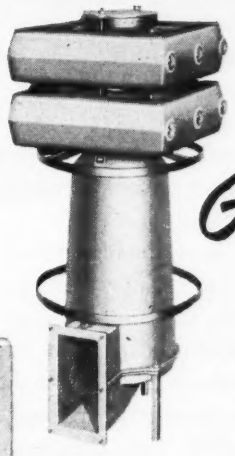


Heating element is Factory assembled.



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90,000 B.T.U.
Input.

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Remove radiators only — or complete heating element — without disturbing ducts, plenum, cabinet.

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Then—put all the points and features together and you have the greatest buying and selling story ever offered in Gas Fired, Cast Iron heating equipment.

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SILENT STEEL
SPLINES
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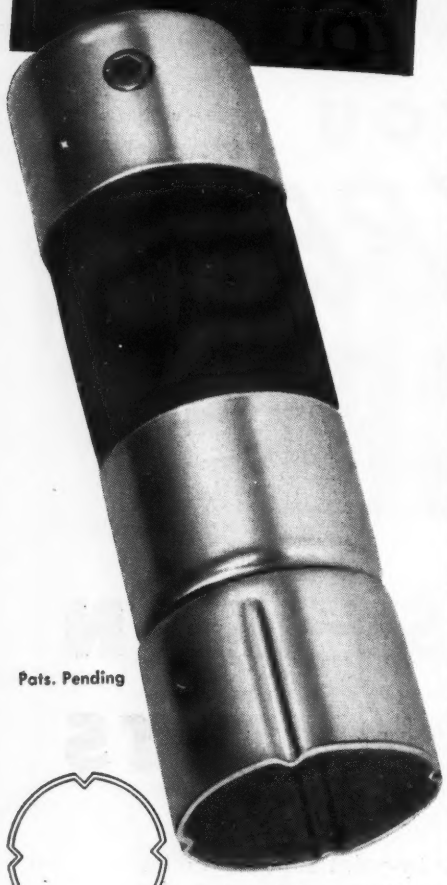

Pats. Pending

Replace spline couplings which have stripped out, loosened, or become noisy, with this heavy-gauge silent steel coupling. Guaranteed not to strip or loosen. Heavy-gauge steel prevents distortion.

Conventional set-screw couplings available in all lengths and bores.

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tors. Fired at rated capacity by a pressure burner, the boiler starts steaming with its pressure at 12 p.s.i. and temperature at 190°. The owner claims he is not getting sufficient heat. Could this have something to do with it?

Radiation and boiler size were checked and were found adequate. I once read that an undersize expansion tank could cause this, but the author did not elaborate. The expansion tank on this job was checked and found large enough.

I would like to know the technical cause of the underheating and what can be done to remedy it.

K. O. H., St. Albans, N. Y.

A. Because of hot channels and cold channels in them, many hot water boilers tend to steam at 190° and under 12 lbs. pressure. The water in contact with extremely hot direct heating surfaces does the steaming, even while water cooler than 160° circulates slowly through coolest parts of the boiler, and while a thermometer at a usual location shows 190°. With this boiler on the verge of steaming, you may be able to get considerably lower or higher thermometer readings by using different, hotter or colder locations for the thermometer.

It seems you hope for higher boiler temperatures than you now can attain without steaming the boiler. Use of a smaller (not larger) expansion tank would build up the pressure to a higher point, as the present thermometer reading approaches 200. You might aim for about 25 lbs. pressure with the boiler temperature at its maximum. To obtain this pressure, either let some of the air out of the expansion tank, or set the system's automatic feed valve for a higher initial pressure. You can safely arrange to have more than 12 lbs. pressure on the boiler when the system is at its highest temperature, and this should permit you to use higher than 190° as the maximum temperature for the boiler. In working in this direction, however, make certain you wind up with a job that is 100% safe in every respect.

If the boiler size and radiation are adequate as you say they are, the building should be well heated with the boiler on the verge of steaming and its thermometer indicating 190°.

Instead of trying to increase the boiler pressure and temperature, perhaps you should be finding out if all the radiators are heating fully. Make certain every radiator is free of air. Check on possibilities of balancing the system, altering it if necessary for this.

Check this particularly. You say you have about 11 radiators on one circuit of a one-pipe job. The radiators closest to the boiler receive much hotter water, on such a job, than the radiators farthest from the boiler. Because it has circulated through many other radiators before reaching the end radiators, the water reaching the end radiators may be about 30° cooler than the water leaving the boiler. Good practice is to make the distant radiators considerably oversize (compared to the radiators near the boiler), where necessary to compensate for the temperature drop that occurs in a long one-pipe circuit of this type. To check on the possible need for this on the trouble job, install thermometers on the distant radiators. If you get low readings (below 180° with the boiler on the verge of steaming), you may have to install larger radiators where these are needed, or alter the system and form more than one circuit so that all the radiators heat properly.

* * *

Q. We subscribe to your publication and read with interest the problems of oil companies and burner dealers throughout the country. We have benefited by the answers to problems appearing in the journal.

We have recently had some difficulty with copper tubing disintegrating and leaking in the basement. Most of our failures have come on low pressure oilburner installations.

The copper tubing, 3/8", .032 wall thickness, seems to disintegrate from the inside. We approached our oil supplier with the problem, and his report was electrolysis.

We have noticed that most of the trouble to date has been in old structures rather than new homes. We have had failures in tubing buried under the concrete and run along the wall above the floor. We have experienced no failures on underground tanks. We are selling a topping oil, or a mixture of

Master Kraft
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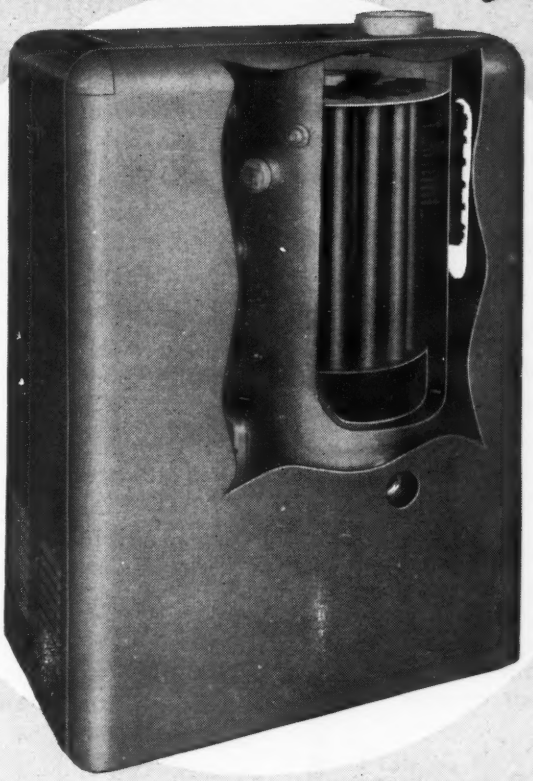
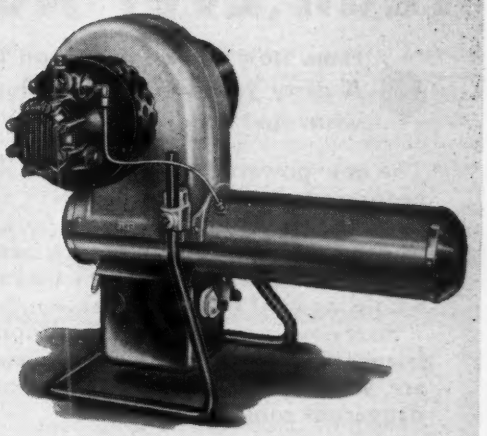
AUTOMATIC HEAT

Aim at the Mass Market for Volume Sales with these Low-Cost Heating Units



Master Kraft B L C Boiler



Master Kraft Model R Oil Burner

IT takes a lot for the money to crack the mass heating market today. And that's just what Master Kraft has for you in the remarkable new BLC Boiler and Model R Burner.

Engineered and built to highest quality standards, they're both loaded with extra values — yet competitively priced for high volume selling.

Available flush-jacketed or fully enclosed in an attractive extended jacket, the BLC features a 200 GPH tankless heater, all-external welding, specially designed combustion chamber and gas retarder baffles for faster heat transfer, removable top for easy cleaning.

On job after job — oil fired with the Master Kraft Model R Burner, gas fired with the Master Kraft Gas Burner — it has proved an exceptional fuel saver. In every way, it's a unit that can give you a big edge on competition in the mass field.

And when it comes to conversion oil burner sales, you'll find the Master Kraft Model R is hard to beat. Its patented, fuel-saving Band Air Control gives you a convincing, easy-to-demonstrate feature. Its low cost gives you potent sales ammunition for price-conscious buyers.

Send coupon today for complete details on how Master Kraft can help you build sales in the high volume, mass market.

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Please send full information.

Name.....

Street.....

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gas oil and distillate, as a furnace oil for these units.

Any information you may have on the subject will be greatly appreciated.

B. E. M., Saginaw, Mich.

A. The causes of this trouble, which are indicated every now and then by different oilburner dealers, seemingly have not been run down fully. In one instance a dealer declared that water lodged in the bottom of the oil tank, and possibly traces of sulphur in the fueloil, were related to the trouble.

In another instance, the trouble definitely was found to be related to the use of rubber reducing bushings, used in the tops of 275 gallon oil tanks. The single lines, 3/8" size, which fed the pressure burners, went through these rubber reducing bushings, located in 2" openings in the tops of the tanks. The 3/8" lines in the tanks corroded away rapidly. Replacing the rubber bushings by metal reducing bushings ended the trouble on some jobs. On other jobs, the trouble was ended by connecting the oil lines electrically.

We suggest that you check thoroughly for water in the bottom of the oil tanks. Also make certain to connect electrically the entire oil systems, including the oil tanks and oil lines. Bear in mind that screwed pipe joints may not provide metal-to-metal electrical connections because pipe compounds may be insulators. To offset this, use #14 wire to connect electrically the oilburners, piping and oil tanks.

* * *

Q. We are subscribers to your journal. Can you help us on the following problem? Due to the fact that we are unable to obtain a 6000 gallon #2 fuel storage tank, we intend to install two 3000 gallon underground tanks. These tanks will be buried side by side at the same level and will be cross-connected at the top with a 2" line (swing joints). We intend to use the Scully system—2" fill on one tank and 1¼" vent on the other. A measuring hole will of course be installed on each tank.

Here is the problem. We intend to install a suction line on each tank running each line through the basement wall. Inside the basement wall, we intend to install a valve on each suction line, running to our gun type burner. A single return line will be run to one of the 3000 gallon tanks. Will this work? Our idea is to have 6000 gallon storage connected to the burner.

Will you please answer the above?

M. A. J., Syracuse, N. Y.

A. This layout you explain is excellent and will work, if you can depend on the suction lines being absolutely air-tight. We have but one improvement to suggest and the reason for it is obvious. Run a return line into the basement from each of the two outside tanks and provide two valves so that you can feed the returned oil to either tank. Provide a valve in each suction line also. In case of trouble that invites this, perhaps involving a load of bad oil, you will be able to run the oilburner on either tank.

* * *

Q. I was called to check a boiler with a view of better efficiency.

The boiler is 34" wide and 34" long, and 56" high including base. Rated at 920 sq. ft. of radiation at 15 lbs. steam pressure, it carries a cast-iron standing radiation load of 965 sq. ft. which is

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From now on, demands on heating plants will increase. A dirty furnace can't deliver heat comfort no matter what fuel it burns.

The new powerful Super Red Streak Model SH cleans all types of heating plants, provides both wet and dry pick-up. Cleans debris from flooded basements, cleans boiler tubes.

Make more than just cleaning fees. Find need for repairs and replacement before competitors are called in. Uncover prospects for whole, new oil burning units.

Start now to get plants in condition for winter use. Super cleaning is easy, fast, no disturbance to household. Chimney cleaning tools are standard equipment. Operator cleans from basement. No dangerous roof climbing.

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The new Supertex heavy duty suction cleaner filter bag is made of a special porous fabric with high resistance to clogging, and destructive action of acids and chemicals in coal and oil soot and other dusts. These form a fragile film on the inside surface of the Supertex bag. This film breaks down and falls, leaving the pores of the bag material unobstructed and the fabric undamaged.

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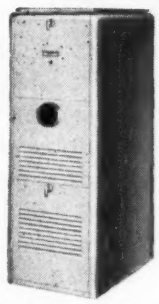
GAS-FIRED

FOR HOMES WITHOUT A BASEMENT



Series 40 DFAC
Downflow

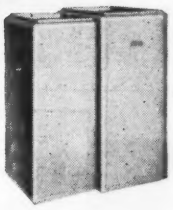
Series 40 VAC
Hi-Boy

Downflow furnace, for perimeter heating systems, has filter and blower at top. Access to burner and controls through lower panel.

Hi-Boy furnace has blower and filter in lower section of cabinet (filter may be installed on either side or bottom).

Heat exchanger is Niagara-made, heavy-gauge alloy steel with corrugated walls for maximum heat-extraction surface.

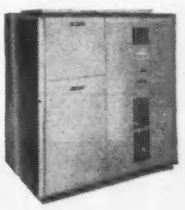
FOR HOMES WITH A BASEMENT



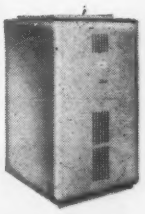
Series 40 AC

Series 40 G

Exceptional flexibility! Blower-filter compartment (shown at left of 40 AC) may be installed on either side. Furnaces available with or without burner-control cover. Deluxe models have 3-speed direct drive blower — standard, single-speed. Gravity model adapted to future addition of blower-filter unit, if desired. Niagara-made heat exchanger, heavy-gauge alloy steel with corrugated walls for maximum heat-extraction surface.



Series 50 AC

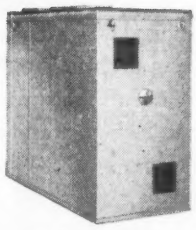


Series 50 G

Highly efficient cast-iron heat exchanger of Series 50 is Niagara-made, an exclusive development, long noted for economical operation and durability, featuring Niagara syphon counterflow system of heat extraction. Deluxe models have 3-speed direct-drive blower and semi-automatic push-button lighter—standard models, single-speed blower. Five forced-air units and four gravity type.

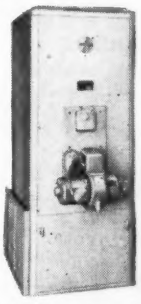
OIL-FIRED

FOR HOMES WITH AND WITHOUT BASEMENTS



Series 30 AC

Model 30-90 DCFAC
Downflow



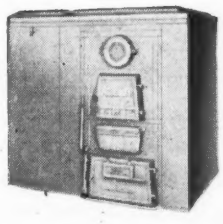
Model 30-90 DVAC
Hi-Boy

Model 30-85 DG
Gravity

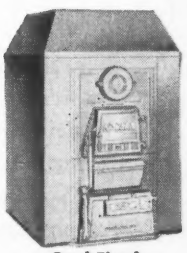
Niagara oil-fired furnaces, with pressure atomizing burners, are available in four types: Downflow (for perimeter heating systems), Hi-Boy, Gravity, and basement-type winter air conditioners (the latter in deluxe models with 3-speed direct-drive blower; standard, with single-speed blower).

COAL-FIRED

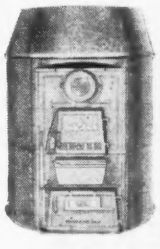
Niagara coal-fired furnaces are made in both round and square models. Included are winter air conditioners in attractive streamlined cabinets with integral blower-filter compartments. Coal furnace interiors feature Niagara-made one-piece cast-iron radiator, heavy-ribbed cast-iron feed section, cast-iron firepot, extra heavy duplex grates with shaker handle attached. Square models are handsomely finished in green baked-on enamel.



Coal-Fired
Winter Air Conditioner



Coal-Fired
Gravity



Coal-Fired
Gravity

High quality and dependable service make Niagara Furnaces a money-making and prestige-building line for heating contractors. Backed by 62 years' experience. Write for complete information.

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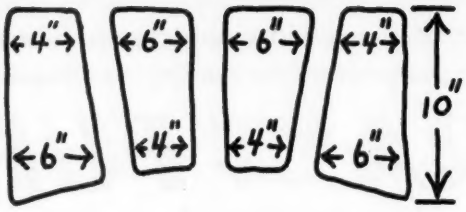
NiAGARA is the word for MAXIMUM HEAT at MINIMUM COST

part of a vapor-vacuum system having a vacuum pump. The cast-iron boiler is designed for coal, judging from the smoke outlet and flue passages (see sketch of flue passages), but is fired at 2.5 gph by a vertical-nozzle pressure burner.

Observed or gross flue temperature is 570°, net flue temperature 500° (room temperature of 70° deducted), 7½% CO_2, efficiency 78%, and stack loss 22%.

I don't consider this too bad for a conversion burner, and wonder if it would be worthwhile to try some of the baffling described in your recent feature articles. True, the flue passages are large. Gases rise from combustion space and travel to front of boiler through two outside flues, then to chimney through two middle flues.



Question about Baffle-F.D.V., Butte, Nebr.

I couldn't get a good smoke reading. Reading is about two stages too dark, so the nozzle must be a little large for the burner's blower.

There is a row of brick on end and about six inches higher than the vertical pressure nozzle. No doubt put in to protect the water legs. I question whether these are needed as I believe the nozzle is 2" or more above the bottom of the water legs. Bricks are cutting some radiant heat off the sides of the boiler.

What is your opinion of heat rake baffles in the flues, a baffle in the combustion space above the burner, and possibly a back wall. This 570° stack temperature is not bad, and I wonder if baffling will drop it substantially.

F. D. V., Butte, Nebr.

A. First, don't be hasty about removing the row of brick you describe. Probably they are producing a higher flame temperature than the job would have without them, and removing them would cause the flame to be cooler, and smokier at the same CO_2 reading.

Second, installing a high back wall made of insulating firebrick, and with or without a downdraft feature should cause the flame to be hotter and cleaner, and might permit you to obtain a lower smoke reading at 7½% CO_2, or a higher CO_2 reading with the amount of smoke you now obtain.

Third, if the job has high enough smokepipe draft to permit you to obtain .02" negative over-fire draft with heat rake flue baffles installed, then putting in baffles of this type and cutting the stack temperature to about 400° or 450° should produce a fuel savings of 10% to 15% for you. However and as you know, this job's efficiency is not exceedingly low to start out, and to show up heat rake baffles at their best you should install them on jobs having stack temperatures above 700° to start out.

* * *

Q. I recently installed a pressure burner in a cast-iron steam boiler with a net rating of 3200 sq. ft. This boiler

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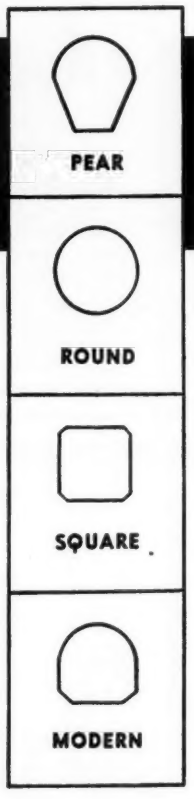

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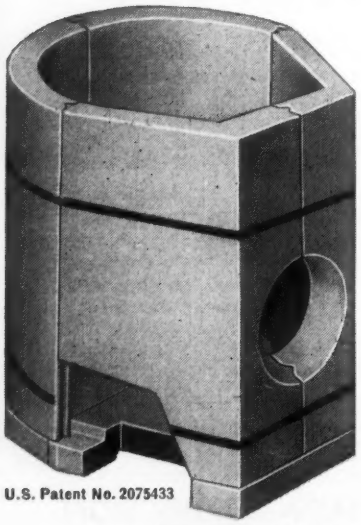

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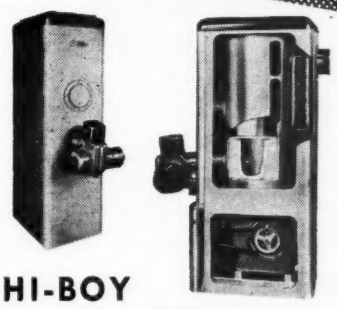

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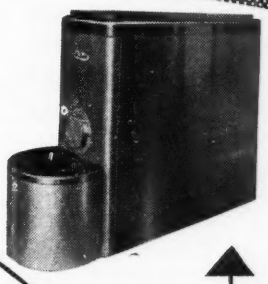

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MODEL LB-90

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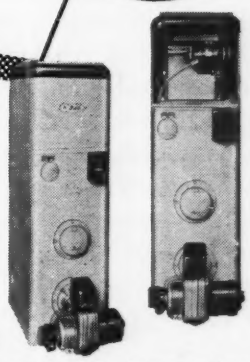

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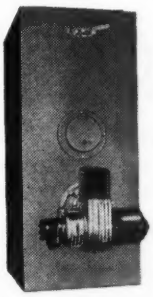

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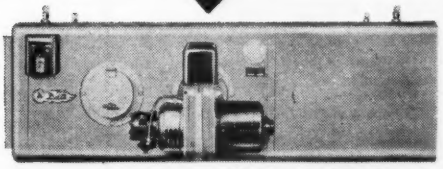

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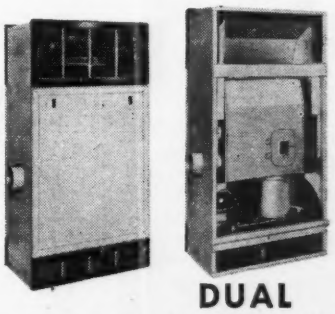

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carries 1875 sq. ft. of radiation and a tankless water heater for 24 baths. At 50 sq. ft. per bath, that's a hot water load equal to 1200 sq. ft. Allowing 375 sq. ft. for piping and pick-up, that's 20%, I have a load of 3450 sq. ft.

I am firing this job at 8.0 gph, which rate I arrived at by using the rules in the "B & W Firebox Handbook." So: 3450 x 240 divided by 100,000 equals 8.28 gph. As this burner operates only six minutes per clip to maintain 180° water, I believe I may be over-firing.

A. C. W., Coatesville, Pa.

A. Here's our method for checking for the proper firing rate on a steam job. First, on a winter's day run the burner long enough to fill every radiator with steam, though you may run the burner 30 minutes to two hours to do this. Second, turn off the burner for exactly one hour to permit the radiators to chill. Third, start the burner and find out how long it takes to build up a minimum of one pound steam pressure. (We assume that's enough pressure to heat all the radiators. If it isn't, find out how long the burner takes to build up enough steam pressure to heat all the radiators.)

After the heat-up and one hour "off" period, the burner should build up one pound steam pressure (or enough pressure to heat all the radiators) in no shorter time than 60 minutes, and no longer time than 90 minutes. If you are over-firing the load, you'll build up the one pound steam pressure in less than 60 minutes. That would invite you to reduce the firing rate. You can't check for over-firing by studying the length of the summer "on" periods that occur for water heating, as the length of these runs has no relationship to the steam load on the boiler in winter, which is the thing that sets your firing rate. You've simply got to fire hard enough so that in winter every radiator heats properly when the burner is turned on for a proper length of time by the control that governs the temperature of the building. You've got to fire hard enough to heat all the radiators on the coldest morning of the winter. Use of an insufficient firing rate will cause some radiators to stay cold during severely cold weather.

With this particular boiler heavily loaded, it may need a firing rate of much more than 8.0 gph; with the boiler loaded very lightly, a firing rate much lower than 8.0 gph will serve very well.

Using the proper firing rate for carrying the heating load, whether this is 5.0 or 10.0 gph, the length of the summer "on" periods will be affected by the sensitivity and location of the boiler temperature control, as well as by the firing rate. Six minute "on" periods in summer seem suitable, to judge by what you tell us. If you want to find out if better results will come of using longer "on" periods for water heating, install an adjustable-differential boiler temperature control. Use an on-off recorder to check on the results of trying to use longer "on" periods.

* * *

Q. Have you any data available on the best temperature to maintain a home or business building? Also the temperature considered most economical for a night set-back?

Does it require more heat to maintain a home or building at 70° or at

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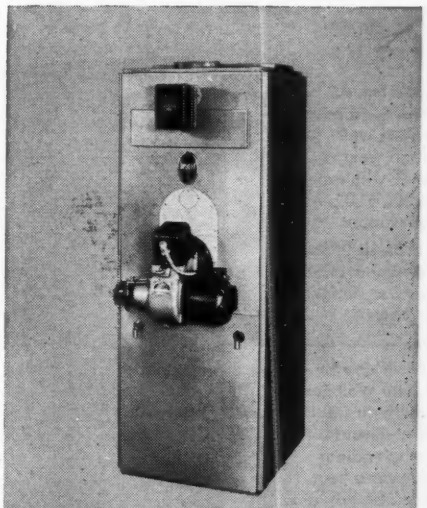

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60°? If so, how can one determine the best thermostat setting to use until the time to bring the temperature up to 70°?

A. M. H., Port Angeles, Wash.

A. In this country, homes usually are heated to the temperatures most pleasing to their occupants. Seldom are oil-heated homes kept cooler than 68° daytimes or warmer than 75° or 78°. The basis for heating plant design is 70°.

Theoretically, greatest fuel savings are the result of using greatest set-backs of heat at night. According to theory then, cutting off the heat entirely at night would give the greatest fuel saving that can result from employing night set-backs. Actually, cutting the heat off entirely at night causes discomfort in homes, eliminates possibilities of controlling temperatures at night, produces problems of heating the homes to about 70° quickly enough on coldest mornings, and in some rare instances even causes risks of freezing water lines during sub-zero nights.

More heat is required to keep a home or business building at 70° than 60°. Maintaining 50° instead of 60° saves fuel.

If discomfort at night is not a consideration in determining how cool to keep a home nights in order to save maximum fuel, then aim for the lowest night temperature that (1) assures proper pick-up of heat mornings, using the particular heating plant, and (2) gives no danger of freezing water lines in the house.

A good rule regarding the daytime temperature of a business building is to heat it sufficiently for the maximum health and comfort of its occupants. Important factors include the type and amount of clothing usually worn by the occupants, the activities of the occupants, and the construction and use of the building. At one extreme, 40° to 45° indoor temperatures have been found delightful to men who are heavily clothed, who are working at hardest labor, and who are accustomed to working mainly outdoors in winter. On the other hand, during the last war the temperature in a large factory had to be raised from 65° to 75° after thousands of housewives were induced to work in the factory. With only men working in the factory, 65° unquestionably was warm enough. With women in the factory, maintaining temperatures below 75° caused too much discomfort and too much talk and disturbance about the discomfort.

Where a building can be heated to any desired temperature during the winter, maintaining it at too low a temperature usually produces complaints from the occupants.

To determine how much to cool a business building at night, use the same general rule given previously for homes. In general, use the maximum set-back that causes no trouble or inconvenience.

* * *

Q. I am having a good deal of trouble with condensation on windows in my home on the eastern shore of Maryland. The house is on a river bank above a large river.

When the heat is on, condensation forms on the windows. Sometimes the water streams or drips from the win-

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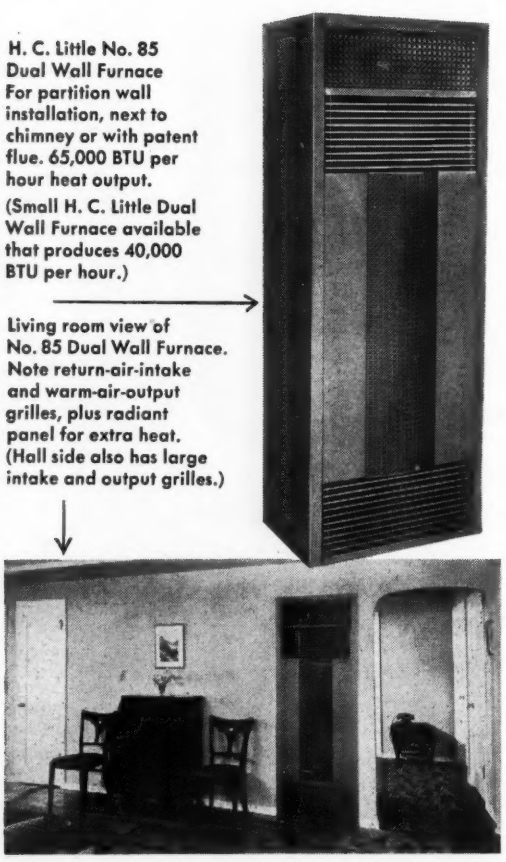

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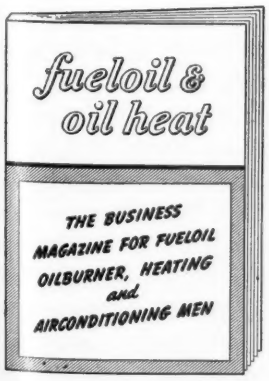

Everybody's Happy: *The Readers Service Dept., Insert in FUELOIL & OIL HEAT (Pages 163-164) seems to be making a lot of people happy, including many readers and the recipients of the inquiries.*

From the time the July Issue came out, until August 15th, we forwarded 2,080 inquiries. FUELOIL & OIL HEAT readers seem to be among the most curious people in the world, and it is good for our advertisers!

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dow sills down to the floor. Heat is oil-fired circulated hot air type.

It seems that in a house heated by a coal furnace there is less condensation. Is there anything to the theory that an automatic heating system always causes condensation? Any information will be greatly appreciated.

J. K. L., Jr., Philadelphia.

A. With your house heated to the same temperature by oil or coal and with all the products of combustion of either fuel going up the chimney as they should, the humidity in the house would be identical with either fuel. The condensation would be identical using either fuel. Use of coal or oil has no bearing on the condensation problem if your smokepipe and chimney are functioning properly and if your furnace is gas-tight. Those factors must be all right in your instance, for otherwise you would have products of combustion in your rooms, including oil fumes formed the moment a cold furnace is first fired.

True, homes that are well heated have more condensation trouble than homes poorly heated. This may lead to the erroneous conclusion that automatic heating causes condensation trouble.

To end the trouble: (1) Reduce the humidity in the house as much as proves feasible; and (2) Install storm windows on the windows that give most trouble.

To reduce the humidity, shut off the humidifier in your furnace, if you haven't done this. Ventilate the kitchen when the cookstove is used, especially if gas is used for cooking. If you have a gas water heater, make certain its products of combustion go up a chimney flue properly and do not wind up in the house. Ventilating the house in general will reduce the humidity, though it does run up the oil consumption for heating. If your basement is damp in winter, that's probably the cause of your trouble. Dry out the basement. One of the new refrigerator-type dehumidifiers, now available at relatively low cost, is excellent and highly effective for this.

If you take steps to make the air in the house dry enough, you will end the condensation trouble definitely. However, you may wind up with the air in the house too dry for the best health and comfort of the occupants, and with drying out of the furniture, and other troubles of low humidity indoors in winter. Usually humidifiers are used with furnace-type heating systems for excellent reasons.

By all means install the storm windows on the windows that give you most of the condensation trouble. Start out by having the original windows and the storm windows fitted as tightly as is practical, to avoid leakage of air into the spaces between the regular windows and the storm windows. But bear in mind the following. In some cases the storm windows remain clear and free of water droplets only after a few small holes, perhaps 1/2%" diameter, are drilled at the bottoms and tops of the storm windows to permit breathing of outside air. In other cases the windows stay clear only when the inside windows are opened slightly, perhaps 1/16".

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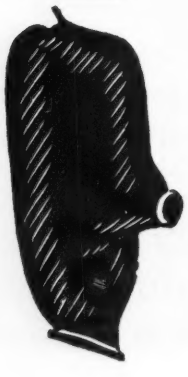

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Q. As a large-scale plumbing and heating contractor, I have taken to studying your magazine rather intensively, finding in it not only relaxation and hobby, but also an education in oilburner technicalities. The worries of others, brought out in your readers' problems, have both entertained and instructed me.

After some difficulty, I obtained from a fueloil company the statement that its No. 4 oil, virtually as low-priced as No. 5 oil here, is of 70 seconds viscosity, Saybolt Universal at 100°F. Question #1: Can I put in three typical pressure burners on one job, each firing 6.5 gph, to use such oil? Question #2: If persistent and technically able to handle the involved problems, can I equip these burners with preheaters that reduce the viscosity of this oil to that of cold No. 2 oil, thus in effect give the nozzles oil as thin as No. 2 oil? Question #3: Are any other burner dealers so doing, and are there any general principles involved that I should know?

W. S. N., Flushing, N. Y.

A. #1: Our "1951 Specifications Book" says: ". . . 55 seconds is the maximum viscosity for trouble-free operation of small pressure burners of typical design. Only clean 100% overhead oils are suitable for such burners. . . ." This applies to your problem. Don't try using 70 second viscosity oil in pressure burners.

#2: No. To do development and research work for the benefit of one installation is unwise and is not good economics. You would wind up with a very odd installation, if you were successful. Your experimental equipment would not meet the safety requirements of the national and local authorities and companies interested in safety aspects of the installation. The job might wind up so involved that you are the only man who can service it! Where you want to burn No. 4 oil, use only equipment nationally recognized for its ability to burn the particular oil safely and economically.

#3: Some general principles already have been indicated. However, in addition consider the fact that in selling this low-priced oil, the oil company probably will not indicate the oil is suitable for pressure burners, and will not guarantee that the viscosity of different loads will be no higher than 70 seconds. One load may just get by in a tricked-up, experimental pressure burner, and the next load may cause an oilburner breakdown.

* * *

Q. I get poor smoke and CO_2 readings testing pressure burners with their fireboxes not fully warmed up after cold starts. As your technical articles never point this out, I ask if I am correct in testing only with fireboxes at cherry-red or hotter heat?

E. L. G., Bay City, Mich.

A. You shouldn't combustion-test an oilburner with the firebox cold for the same reasons you wouldn't test the gasoline economy of an automobile with the engine cold and the carburetor choke in action. Where a firebox gets red-hot after the burner runs a few minutes, the combustion and the CO_2 and smoke readings can be expected to be relatively poor until the firebox becomes red-hot. To get good combustion test readings, run the burn-

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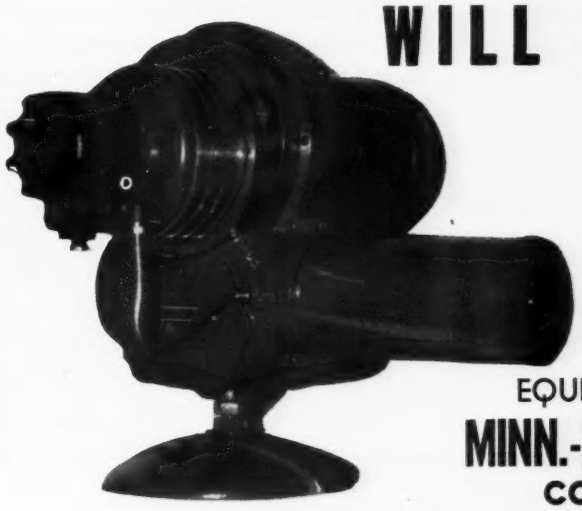

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BURN-RITE PRODUCTS CO.

354 Sawmill River Rd. Yonkers, N. Y.

er at least 15 minutes before you make your tests. If the burner usually runs 15 minutes at a time when heat is needed, you can get a realistic idea of its usual operation by making one set of tests 7½ minutes after a usual warm start, and 7½ minutes later.

* * *

Q. The large, much-used sunroom in this house faces south and gets tremendous sun heat on sunny days, and locating the room thermostat (controlling steam heating plant) in this room works out fine for sunroom temperatures, saves one-third of oil used otherwise for heating, but cuts heat off rest of house when sun shines all morning and afternoon. So I tried room thermostat in living room that gets no heat from sun. Result was oversize fuel bills, good heat control of every room in house but sunroom in all kinds of weather, but terrific overheating of sunroom when sun shines. There must be some way to provide proper heating in all kinds of weather for (a) sunroom, which needs heat in winter only when sun is not out, and (b) living room and all the other rooms in house, which parallel living room in their heat requirements.

G. K., New Rochelle, N. Y.

A. There is a way, and it's the only way. Provide two-zone heat for the house. One room thermostat should control the heat in the sunroom, and another room thermostat should control the heat in the living room and the rest of the house. The first thermostat, located in the sunroom, should open and close a valve that feeds steam to the sunroom radiators. The second room thermostat, probably best located in the living room, should open and close a valve that feeds steam to all the other radiators in the house. Auxiliary switches on the two motorized steam valves should be wired to the burner control panel in such a way that the burner generates steam only when a motorized steam valve is open because a zone needs heat.

* * *

Q. A new job has an outside tank, and bottom of tank is about three feet below oilburner, but job keeps losing its prime though we've tried two new fuel units. Would appreciate your outlining probable causes of oil pump's losing its prime.

S. F., Joplin, Mo.

A. Failure to install a return line for an outside tank job can cause this trouble. Provide a return line, if the job has none. Make certain you are setting up the fuel unit properly for two-line operation; your men may wrongly be setting it up for one-line (no return line) operation although the installation has a return line. Next, suction line air leaks are an important cause of such trouble. Use some thoroughly good method to find out if air is coming through the suction line with the burner running. Finally, use a vacuum gage in the fuel unit, or in a tee in the suction line close to the fuel unit, to find out if for any reason the pump develops higher than 10" vacuum in drawing oil from the tank. A vacuum higher than 10" on this job indicates a plugged or kinked suction line, which can cause this trouble, or the use of a suction line which is too small a size for its length. If you've a strainer or filter in the suction line (in addition to the strainer in the fuel unit), make certain it is not plugged.

* * *

Q. I have a cast-iron boiler which I can't seem to get clean. I've been cleaning the boiler every few days this heating season by running hot water through the bottom of the boiler and letting it overflow from the top. I keep the burner running and the water comes out boiling hot. Yet she primes. The vent valves on the third floor often sprinkle water. The boiler loses five or six gallons of water every day. Where is the water going? I tried to clean the boiler thoroughly, then used a water testing powder and this showed the water dirty, though it looks pretty clear. Then I tried a chemical to clean the boiler, and this made the priming worse.

This helps account for the boiler's condition. Last heating season we discovered that the boiler was losing 50 gallons of water a day. The boiler's

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self-feeder was shut off accidently, so we found it was losing water, and fed the boiler manually to find out how much water it was losing. At the end of the season we uncovered all the returns and found a broken return, which we replaced. While this was going on last winter, an enormous amount of oil was burned, as you can imagine. I hope I have made my problem clear and that you can suggest a solution?

M. W., Woodside, L. I., N. Y.

A. As you indicate you know when you account for the boiler's condition, thousands of gallons of make-up water went into the boiler while boiler water leaked from the broken return line. Resultant rusting of the boiler, and depositing of minerals in it, give you the priming trouble you now have. The boiler now needs highly effective treatment with chemicals to clean it.

Years ago you might have been told to load the boiler with such things as five pounds of cleaning soda and five pounds of trisodium phosphate, first dissolved in hot water and then put in the boiler and left there a day or so. Old-timers used such treatment two or three times, flushing out boilers thoroughly after each treatment, to cope with such priming as you now encounter. Often they kept the boilers steaming and fed water into their bottom connections, keeping dirty water pouring out of a boiler opening at the water-line level, much in the manner you describe.

Today, however, highly effective chemicals are sold by specialists at boiler water treatment, to cope with this priming trouble. You should obtain such chemicals by taking up the problem with companies that sell such chemicals, or discussing the problem with the manager of the supply house you deal with, or with a heating engineer. Simply take the proper steps to wind up using a highly effective boiler cleaning compound. Be prepared to clean the boiler several times, using such a compound, for more than an ordinary amount of cleaning treatment is needed for this boiler.

If the boiler still takes excessive make-up water after thorough cleaning has stopped its priming, keep ten pounds steam pressure on the system and look for leaks that permit steam or water to escape. If you find no leaks, you will have to consider the possibility of additional leaks in concealed return pipes.

Good boilers have been practically ruined by such abuse as this boiler suffered last heating season, some of their important water passages becoming tight-plugged by rust, sediment and scale that no chemicals can remove. Do not, however, conclude that this boiler has been ruined until you have tried the most effective, most thorough cleaning imaginable. Wind up with clean water in the boiler before you decide it is priming because some of its important water passages are tight-plugged.

* * *

Q. The under-the-waterline oil heater on this 200 hp boiler plugs or fouls too quickly, in four months giving the burner #6 oil at 120° instead of at 160° as with heater clean. What can make this heater act up when other similar oil heaters do not?

H. E. S., Indianapolis, Ind.

A. We gather the water side of the

It is with mixed emotions that we at Electrol bid farewell to Frank DeMoss. We are sorry to lose such a wonderful Electrol Dealer ... and we are happy that Electrol has played a part in making his retirement possible.

For over 27 years Mr. DeMoss has represented the complete line of Electrol oil-fired equipment, and each year his plumbing and heating business has grown in volume and profits. Now at an early age he and his wife are heading for sunnier climes to devote their full time to enjoying life.

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heater tubes need frequent cleaning. Use of excessive make-up water for the boiler, and failure to treat the boiler water properly, are the usual causes of this trouble. Watch out! This trouble may be a warning that the boiler is being ruined by excessive make-up water and failure to use proper chemicals to treat the boiler water. In addition, pumping unusually cool oil into the oil heater may be increasing the trouble.

* * *

Q. The heat loss of this home is 95,000 Btu. Furnace is rated 105,000 Btu at the register, and is fired with a 1.25 gph nozzle at 80 lbs. as recommended by the furnace manufacturer. Am I right about the following observation?

Furnace is evidently oversize, but according to your advice and the B&W Firebox Handbook and all combustion and nozzle experts, I should arrive at my firing rate as follows. 95,000 Btu multiplied by 15% pickup divided by 100,000. That formula gives me approximately 1.0 gallon nozzle. The recommended nozzle is 1.25 gph fired at 80 lbs. pressure, the same as firing a 1.0 gallon nozzle at 100 lbs. pressure except that the orifice is larger and has less possibility of clogging.

Now according to that figuring how can I be getting 105,000 Btu at the register when you know firing 1.0 gph will not give more than 109,250 Btu at the bonnet, unless we assume there can be only a loss of 4,000 Btu in the transfer? Please comment.

P. E., Oak Park, Ill.

A. First, use of the formula leads to a gross load of 109,250 Btu per hour, and accordingly to a firing rate of 1.09 gph or about 1.10 gph, not 1.0 gph. Second, you ask how you could be getting 105,000 Btu at the registers, whereas you based your computations on 95,000 Btu net load and therefore should expect 95,000 Btu per hour at the registers. All this is splitting hairs, however. The proof of the pudding is in the heating and we gather from what you say that 1.0 gph is sufficient firing rate for this particular installation.

* * *

Q. I would appreciate some advice in reference to the ——— ——— burner. What is your opinion of the burner?

Is it as good as a wall flame rotary? Any other comments on the burner will be appreciated. Thank you.

E. A., Brooklyn, N. Y.

A. As most readers who present problems already know, by policy we avoid discussing the relative merits of different makes of equipment in this department. However, this may be helpful to you.

Well-informed dealers, who are uncertain about starting to handle a particular make burner, often obtain all the information they can from the burner manufacturer, make a trial installation to study the installation and service aspects of the burner, and visit other dealers who have been handling the particular burner for years. Exceedingly meaningful data on combustion tests, fuel consumption, and installation and service details often can be obtained from other dealers who have for years handled the burner you have in mind.

Delighted to receive a short, direct

A TYPICAL INSTALLATION is shown here. Notice warm air outlet (grill at top of panel) is located high, so furniture can be arranged and used immediately in front of the furnace.

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question, we regret that we cannot be equally short and direct in answering. Thank you for the confidence you show in us.

* * *

Q. Have you a standard hook-up for applying a booster motor-pump set to a large pressure burner that develops 18" suction line vacuum and gives trouble because of high lift from the oil storage tank?

W. D., Cedar Falls, Iowa

A. No. Good, standard practice is to install a wall pump for such a burner, if you want to feed it by gravity to end the trouble. First try to locate and seal any suction line leaks that may be causing trouble, and check on the possibility of ending the trouble by switching from a simple fuel unit to a two-stage fuel unit.

* * *

Q. When I opened wide the secondary air damper of this cup-type burner using No. 6 oil, in an effort to get more air to burn more oil, the over-fire draft dropped from .20" to .12", and I don't like this because I've been advised to use all the draft the 60-ft. chimney can provide. It seems I could get more fire, though. Shouldn't the over-fire draft stay the same or become higher when I fire harder? Please explain.

P. M. B., Wyoming, Ill.

A. At .12" over-fire, you still are using all the draft the chimney can provide, and you are giving the fire much more air than at .20" over-fire and with the secondary air damper half closed. This should make things clear to you. If you open the firing doors of the boiler wide, you will admit great amounts of air (over the fire, to-be-sure, and where the air doesn't help the flame much) but at the same time you will drop the over-fire draft to practically zero. Thus pouring more air into the combustion space tends to kill the draft.

* * *

Q. Are there any definite checks that can be made on a fuel unit while it is still on the burner, which will indicate if the fuel unit is faulty? Lately several burners started pulsating as with plugged nozzles. After servicing they worked fine for some hours, then gave the same trouble. Changing the fuel units corrected the trouble in each case.

A. W. S., Herkimer, N. Y.

A. Many odd accounts of servicing experiences are sent us, but never before have we encountered the idea of switching fuel units to end flame pulsation. Candidly, it appears you are on the wrong track.

On-the-job check-ups of fuel units are usual. To test for pump wear, rig up a return line system temporarily on a job that hasn't a return line. Use a valve in the suction line and run the suction and return lines to a five-gallon oil can or use a similar arrangement. Air-rid the fuel unit thoroughly and keep on firing the burner with the firing door open, then shut off the suction line valve and read the maximum vacuum the pump develops. You read this vacuum on a suction line vacuum gage you have installed in the fuel unit or the suction line for the purpose. Good pumps develop vacu-

Nozzle TIPS

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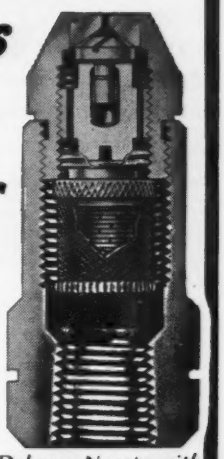

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You can make on-the-job check-ups for tight closing of the shut-off valve, for pump noise, and for shaft gland leaks. You can find out if the pump shaft turns freely and spins a few seconds after the motor is turned off. Use a pressure gage to check for pressure control and pressure trembling or varying. Such on-the-job checking can prove definitely that a fuel unit is not defective.

* * *

Q. We have a coal fired boiler in which an oilburner has been installed. The flue travel in this is very short and it seems to be using too much oil. Do you know of any recommendations for changes to improve this condition?

W. J. H., Richmond, Indiana

A. First, evaluate the stack loss using combustion testing instruments. Be thorough, and use a smoke instrument as well as a CO_2 tester and a stack thermometer. Use a draft gage, naturally, to make certain you have adjusted for the correct over-fire draft. Even if you have to improve or replace the combustion chamber, try out different nozzles, and give painstaking attention to the oilburner's gun-tube air-handling parts, you should wind up with at least 11% or 12% CO_2 together with a passably low smoke reading. Make certain you are using the lowest gph firing rate which is feasible for the load; your efforts to improve the combustion may permit you to reduce the firing rate by 20% to 40%.

Second, study the possibilities of baffling either the combustion space or the flue passages of the boiler to reduce the stack temperature considerably. Proper baffling often reduces oil consumption 25% to 45%, and was covered in detail in a series of two articles which appeared in the October and November, 1951, issues of FUELOIL & OIL HEAT. These articles were illustrated by 15 specially-made drawings. When installing baffles, the articles warn, don't work without combustion testing instruments!

Gar Wood enters space heater Field

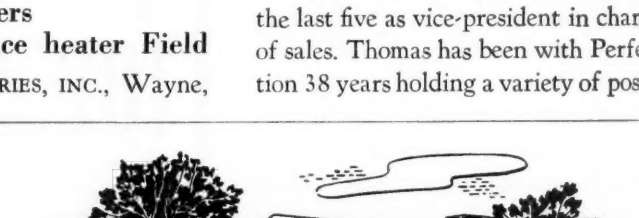
GAR WOOD INDUSTRIES, INC., Wayne, Mich., has acquired in excess of 80% of the outstanding shares of common stock of United Stove Co., Ypsilanti, Mich., through the consummation of a stock exchange offer made to the share holders of United Stove.

E. R. Leeder, executive vice-president of Gar Wood and recently elected president of United Stove Co., stated that the subsidiary will continue to manufacture its present products, including Savoil space heaters and various metal stamping products.

❖

H. C. Erhard has been named sales manager, contract sales department, Perfection Stove Co., Cleveland 4, O. Assistant sales manager of the same department is *H. E. Thomas*. Erhard joined Perfection in 1949, following the company's purchase of the domestic range assets of the Standard Gas Equipment Co. For 33 years Erhard had been associated with Standard Gas; the last five as vice-president in charge of sales. Thomas has been with Perfection 38 years holding a variety of posts.

5 oil-fired ARMSTRONG furnaces for the small home



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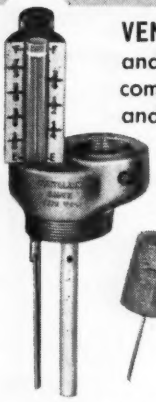

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Customer Consideration Paramount Issue In Season Ahead

WITH STRONG gas competition prevalent and the threat of it in additional areas, fuel oil companies should give primary attention to their present customers. Too often in the mad scramble for new accounts, we overlook Mrs. Jones and Mr. Smith, who have been loyal fuel customers for the past three to ten years.

In the old days, some of the boys used to get a bang out of barging in . . .

We, many times, grant a new customer anything his heart desires while thought of our tried and true old accounts is dismissed with, "Oh, don't worry about Charlie Brown. Why, he's one of the first customers I got when I started business. He'd never change to anyone else for his oil. As for changing to gas—ha, ha ha!"

We contend that when a company thinks in this way, it is thinking dangerously.

Householders everywhere have shown they want carefree automatic home heat. We, then, should be sure that oil heat is as automatic in every respect as any competitive heating.

Let's consider the lady who has been disturbed as she was about to take a bath. She just hasn't got automatic heat by today's standards, and hasn't had it during the ten years she's owned that oil burner.

Hundreds of fuel oil companies throughout the country have corrected this situation—have given *completely* automatic heat to their customers by installing a whistling tank fill signal on all their old customers' fuel tanks. This has: (1) Brought to the customer complete freedom from thinking of his oil supply or being inconvenienced by its delivery or damaging spillage, (2) Placed oil heat on a par with any competitive heat insofar as the fuel supply is concerned, (3) Saved thousands and thousands of dollars for fuel oil companies by making possible fast, time-saving deliveries in complete safety.

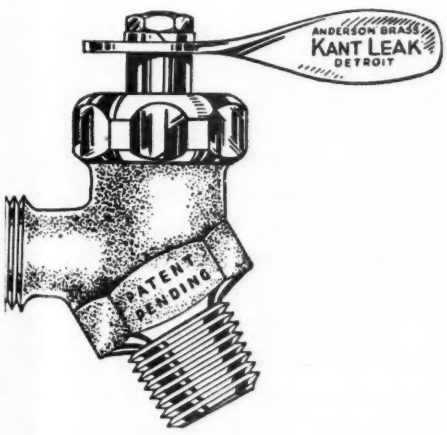
For easy installation of VENTALARM Signals on old customers' tanks, the Scully Signal Company has developed a special "LC" model. They'll be glad to send full details on request. Adv.

New Products

Each New Products item has an identifying number. If you want more information on any equipment listed here, circle the corresponding number on the reply card appearing on the facing page and mail to us. No postage is required.

Anderson Brass develops Valve for oilfired space Heaters

A NEW 3/8" male I.P.T. Kantleak angle valve is now available for fueloil tanks having 3/8" openings. This new valve



incorporates the packed top Kantleak feature used in the 1/2" and 3/4" male I.P.T. sizes, and it is stocked in 3/8" O.D. Tube size with either flared or compression tube ends.

By using the 3/8" valve in its Kantleak Fuel Oil Tank Kits, Anderson Brass Co. has rounded out its line and now have packaged valve and filter kit available for installing either one or two tanks having 3/8", 1/2" or 3/4" openings.

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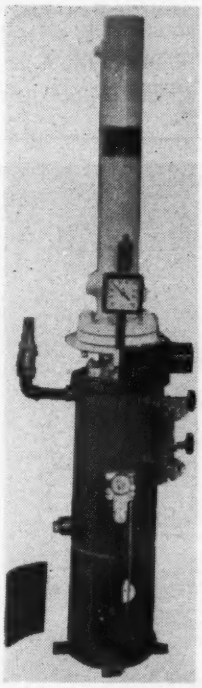
Paracoil Type "GF" indirect gasfired fueloil Heater

PARACOIL, Type "GF," is an indirect gasfired fueloil heater which provides its own supply of steam by using gas as the primary source of heat energy. Type "GF" is, in effect, a combination of a small gasfired steam generator and a vertically mounted steam oil heater. An automatically controlled gas flame generates a supply of low pressure steam in the lower section of the unit, and this steam in turn passes in a closed circuit to the upper oil heating section. The condensed steam returns by gravity to the lower section, to be re-evaporated again. This closed steam-condensate cycle permits long periods of operation without the necessity of additional make-up water. Neither the gas flame nor the products of combustion can come in contact with the oil tubes in the upper section.



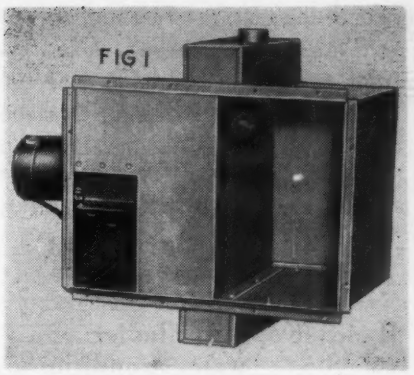
Any type of gas can be used as the primary fuel. A burner designed for the gas to be used is furnished with the unit. There is no connection between the heater and the steam or water space of any oilfired boiler it may be serving, eliminating the possibility of contamination of the boiler water in the event of an oil leak.

Made by: Davis Engineering Corp., Elizabeth 4, N. J.

Circle No. C41 on card

Aqua-air provides hot water from warm air heating Unit

AQUA-AIR hot water generating unit, after twelve years of field testing, is



being offered as an attachment to warm or hot air heating systems to provide hot water for domestic use. Standard models are available for 1- and 2-family houses for use with 40 and 66 gal. hot water tanks. Aqua-air utilizes warm air, generated by the oilburner firing the furnace, to heat the water and has been approved by FHA for housing developments.

The Aqua-air package consists of a blower assembly, aluminum damper, hot water control and relay. The blower assembly (illustrated), a box about 12" by 12" by 18", is attached to the side of the plenum on top of the furnace unit and contains a copper finned coil and Sirocco type blower. The copper coil is connected to the hot water tank which is located horizontally alongside or above the warm air unit. The warm air heated by the burner is drawn from the plenum by the Sirocco blower and forced over the coil. The aluminum damper is used during the Summer months when space heating is not required. It stays closed during this time preventing the heated air from being circulated through the house.

Made by: Aqua-air Corp., 1040 Hempstead Turnpike, Elmont, L. I., N. Y.

Circle No. C42 on card

Perfection introduces Furnace for perimeter Heating

PERFECTION-SUPERFEX Furnace, Model F-601, is a 74,000 Btu counterflow oil furnace for perimeter heating of homes having the ductwork running under the floor or imbedded in concrete slab. The furnace is 22" wide and 25" deep.

It is delivered as a packaged unit, fully-wired and assembled. There are only three connections to be made at

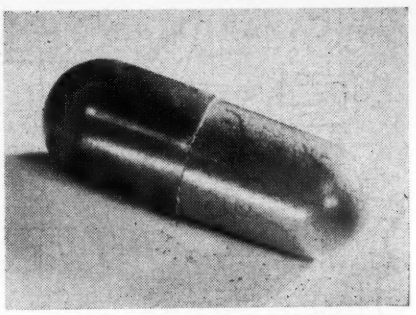
time of installation—fuel supply, 110-volt line and thermostat cable. The front panels are removable. The furnace has sturdy box-frame construction, a rust-proofed casing and white baked enamel finish.

Made by: Perfection Stove Co., 7609 Platt Ave., Cleveland 4, O.

Circle No. C43 on card

Handy-Kaps for boiler water Conditioning

HANDY-KAPS are being offered by Dominion Products for water conditioning of domestic and small boilers. The product is packaged in small capsules which are inserted into the boiler through the openings of removed pressure relief valves. Handy-Kaps are described as functioning by filtering and precipitating physically foreign deposits and accumulations of rust, grease and oil film; preventing priming, foaming, pitting, scale, rust and corrosion. The contents of one capsule equal 1 lb. of powder or one qt. of liquid, with 1 to 3 Handy-Kaps described as adequate to clean and condition the water in the average boiler



Before using Handy-Kaps the boiler must be drained and filled with fresh water if other chemicals have been used. After insertion, the capsule is allowed to work for a month, the boiler is drained and refilled. If the boiler water remains dirty, the cleaning process is repeated. Next the boiler water is conditioned by adding a Handy-Kap capsule through the safety valve opening. Dominion recommends that this be repeated annually.

Made by: Dominion Products Co., Dept. A, 11 West 42nd St., New York 18, N. Y.

Circle No. C44 on card

Three new items introduced in Hart & Cooley Catalog

THREE NEW ITEMS designed primarily for perimeter heating are included in the new Hart & Cooley Catalog No. 52.

The first is an Out-of-Wall baseboard register frame designed for use in structures of solid masonry walls and old house work where stacks cannot be placed between studs. In combination with the H & C No. 74 Design Register or No. 40 Design Diffuser, the No. 4 frame provides a two piece out-of-wall installation.

Second is the sidewall diffuser for perimeter heating combining straight and horizontal face fins which disperses the air in a 180° spread upward providing a curtain of warm air over the exposed wall or window area. A small amount of warm air is also permitted to flow down over the floor. The diffuser is equipped with a volume control adjusting screw for balancing the system at the diffuser face.

Third is the No. 411 perimeter floor diffuser. Among its features are adjustable curved vanes, permitting an even spread of air with the least

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"NEWTYPE" STYLE R-43 FUEL OIL HOSE

For Quick, Low-Cost Deliveries!

KINKPROOF, NON-FLATTENING—Stays round, on or off the reel.
FAST, FULL-CAPACITY FLOW from truck to nozzle, always.
LIGHT IN WEIGHT . . . EXTREMELY FLEXIBLE . . . Easy to handle.
EXCEPTIONALLY STRONG, with tough, long-lasting cover.

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GOODALL RUBBER COMPANY Date.....
Whitehead Road, Trenton 4, N. J.

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amount of resistance. An opposed louver valve provides accurate volume control without disturbing the vertical air pattern. An adjustable balancing screw is incorporated in the diffuser and is accessible through the face. A simple dial type valve operating device is used to open and close the valve. The No. 411 is available in seven sizes from 2¼" x 14" to 6" x 14" in either Metalustre or Oak finishes.

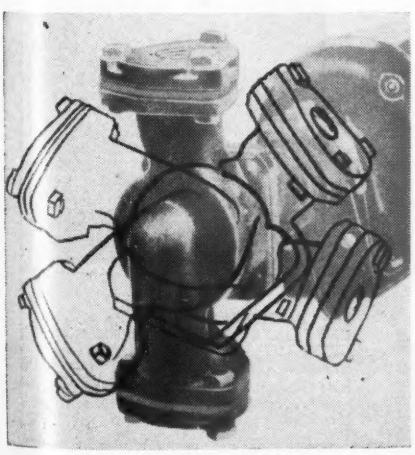
Made by: Hart & Cooley Mfg. Co., Holland, Mich.

Circle No. C45 on card

Several new Features enhance Econo horizontal Circulator

SEVERAL NEW FEATURES have been introduced by Econo Products Co. in its horizontal circulator line for residential and industrial hot water heating systems. The entire pump assembly can now be set for any direction of flow; vertical, horizontal or any other angle, by loosening one nut. The manufacturer says this operation reduces installation time, makes the pump simple to adjust to any piping angle and eliminates possible leakage because there is no need to remove bolts or gaskets.

Another new feature is the bronze open fin impeller which gradually builds up circulation, effecting a sustained head pressure without overloading the motor. Another feature is the Neoprene vibration dampener, providing vibration-free sound insulation by eliminating metal-to-metal contact. The Econo pump also has a special design flexible spring coupling which eases the starting torque, an automatic thermal overload switch, extra heavy oilite bearing, oversized waterway, patented Neoprene oil seal, hardened and polished stainless steel shaft, patented pinned rotary water seal and a large oil reservoir. Circulators are available in ¾", 1", 1¼" and 1½" sizes.



Made by: Econo Products Co., 17 State St., New York 4, N. Y.

Circle No. C46 on card

Ox'O-Fluid Solution for treating Fueloil

OX'O-FLUID solution is being offered for fueloil treatment, recommended dosages of 1 gallon of the additive to each 1,000 gallons of fueloil. The product first was made as a decarbonizing agent for gasoline and recently it was discovered that it was effective when used with fueloil also. It is described as usable with all grades, up to No. 6 oil.

Its action is explained as releasing free oxygen when blended with fueloil, oxidizing formed carbon into carbon dioxide and causing it to be dissipated up the chimney as an odorless gas. Additionally, Ox'O-Fluid

SAFE FILL NOZZLE PLUG

A Quick Tight Connection For Fuel Oil Delivery

Plug only	Plug including safety valve	Plug, safety valve and 1¼ or 1½ nozzle tube
$2.00	$4.00	$6.00

SAFE FILL tapered nozzle plug only approved and patented tight connection on market . . . safety valve pops off at approximately 5 lbs. P.S.I. prevents rupturing oil tank. Tapered plug pops out at 10 lbs. P.S.I.

SPEEDS UP VENTING, safe fill tapered nozzle plug is especially developed for use with VENT-ALARMS.

TIGHT CONNECTION eliminates excess air sucked in through fill pipe while tank is being filled.

INEXPENSIVE AND STURDY safe-fill tapered nozzle plug made of synthetic neoprene rubber especially designed to stand up under long, hard usage—in contact with oils and gasoline and similar liquids.

Indispensable with Ventalarm

SAVES TIME AND LABOR, faster filling, drivers are able to cut pumping time as much as 50%.
ELIMINATES blow backs, spillage complaints, ruined lawns and shrubbery.

ALWAYS AT HAND, slips snugly into any rigid nozzle tube, remains there permanently. Fits all types of fill boxes, fill pipes and fill caps. Needs no tools.

Order from your jobber. Jobber inquiries invited.

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344 WAGARAW ROAD
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424 HOWARD AVE.
NEW HAVEN, CONN.

PETROLEUM EQUIPMENT, INC.
2538 W. FOND DU LAC AVE.
MILWAUKEE 6, WISCONSIN

PETROLEUM PIPE & SUPPLY CO., INC.
1529 FEDERAL STREET, N.S.
PITTSBURGH 12, PA.

GEO. E. LITTLEFIELD, INC.
PORTLAND, MAINE

Manufactured by GASOILAIR EQUIPMENT CO.
P. O. Box 768, New Haven, Connecticut

works as a sludge solvent to remove deposits from storage tanks.

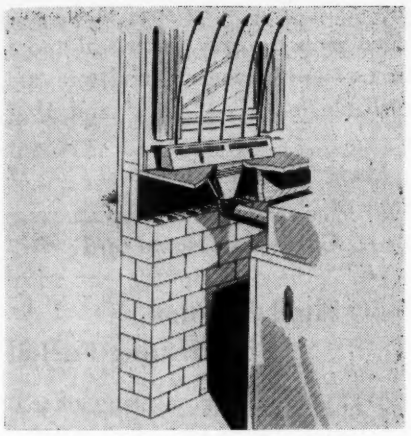
Distributed by: Thrifty Products Co., P. O. Box 371 G.P.O., Brooklyn 1, N. Y.

Circle No. C47 on card

York Radiaire Base-Heat new Type of warm air System

YORK RADIAIRE BASE HEAT, a new type of forced warm air heat system, features Radiaire distributors which are placed in or in front of the baseboard to distribute a warm blanket of air along the outside walls of the home, small ducts, and York-Heat winter air conditioners. Standard blower speeds are used in the winter air conditioners to distribute the heated air to the duct system. The Radiaire distributors come in three standard widths of 3, 4 and 5 feet and can be combined to any width up to 10 feet in order to cover a wide area of wall surface if required.

The Radiaire distributors are connected through the floor to the air ducts by standard boots which come in four different types, so that all types



of connections can be easily made. Supply ducts are available in 4, 5 and 6 inch diameters. York Radiaire Base-Heat can be used in any type of home where warm air heating is desired and can be connected to any of the York-Heat winter air conditioner units.

Made by: York-Shipley, Inc., York, Pa.

Circle No. C48 on card

Autocar develops Tractor powered by V-8 Engine

A HIGHWAY TRACTOR, with an eight-cylinder, high-compression V engine has now been installed for the first time in a heavy-duty, commercial vehicle for general highway use by Autocar. Manufactured in 142-inch and 159-inch wheelbase lengths, the tractor, a light-heavy, is designed to handle unusually large payloads. It is listed in the Autocar line of heavy-duty trucks and tractors as Model C-85-T—and as the Autocar V-8.

Made by: Autocar Co., Ardmore, Pa.

Circle No. C49 on card

Fuel-Tone sludge Solvent for cooking and heating Units

FUEL-TONE, one of the products in the Solder Seal line, emulsifies and disperses sludge, gum and water deposits in tank and fuel systems of oilfired cooking and heating units. It contains a special rust preventive to inhibit internal rusting of the fuel tank and is described as retarding corrosion and electrolysis.

Recommended dosages are 1 pint for each 275 gals. of fueloil, 2 pints for each 550 gals. and 4 pints for each

the Mt Hawley "BUDGETEER"
THE HEATING ANSWER TO YOUR SPACE PROBLEM
80,000 NET BTU'S OIL OR GAS
COMPARE THESE FEATURES:
• Meets FHA and Underwriters Laboratories Standards For Closet Installations
• Fits In Closet 22" x 44" And Still Permits Servicing of Burner
• Uses A Minimum Of Fuel Because Of High CO_2 and 450° Stack Temperature
• Easily Converted From Oil To Gas
IDEAL FOR ANY FORM OF HOT WATER HEAT
No matter whether it's radiant panels in ceiling or floor, baseboard or convectors, the BUDGETEER brings the temperature up quickly when the controls ask for it — all due to ample combustion area and extra large heating surfaces.
QUIET AND EFFICIENT
Fitted with Mt. Hawley's own aluminum oil burner, the BUDGETEER is noted for its smooth, easy start, freedom from vibration and rumble. Good CO^2 and 80% or higher efficiency factors are easy to get even with ranch type houses with low chimneys.
H McoM
Mt Hawley MFG. CO.
PEORIA 4, ILLINOIS
The BUDGETEER CAN BE CONVERTED FROM OIL TO ALL GASES WITHOUT MAJOR OVERHAUL.
1 of 9 popular Mt. Hawley models. For literature describing the entire Mt. Hawley line, write Dept. 3A.

REACH OUT FOR MORE SALES WITH *Radiant*

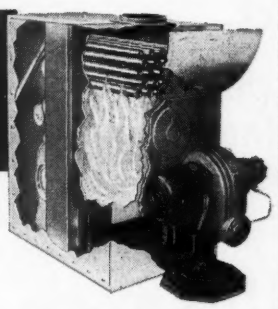
A Complete Line from ¾—30 Gals. Shell Head Models ½—10 Gals.

RESIDENTIAL
COMMERCIAL
INDUSTRIAL

Every PROFIT Reason Says—BUY RADIANT!

Performance—Equal to the highest priced burners.
Price — Meets competition every time . . . *plus* — Low Upkeep — Factory Guarantee . . . National Distribution . . . Protected Territories . . . Easy Installation . . . Minimum Servicing.

THE *Radiant* OIL FIRED WINTER AIR CONDITIONER



Precision Engineered for Economy in Price—Installation—Operation

SUPERIOR DESIGN — Tubular construction presents greater heating surface to flue gases than conventional furnaces . . . jacket is substantial and well finished . . . high temperature combustion chamber . . . motor driven blower unit and air filters.

FACTORY ASSEMBLED—Shipped complete with combustion chamber installed and jacket completely assembled.

Available in Four Models: Low Boy, Suspended Unit, Hi Boy, Counterflow

WRITE FOR COMPLETE RADIANT LITERATURE.
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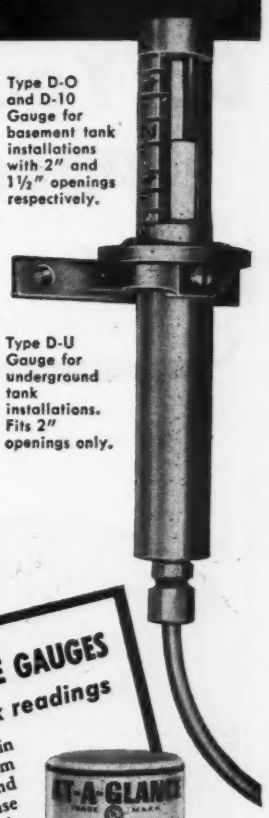
RADIANT UTILITIES CORP.
8815 18th Avenue, Brooklyn 14, N. Y.

RADIANT OIL BURNER

AT-A-GLANCE *Sentry* TANK GAUGES

REMOTE READING
INDOORS • OUTSIDE
UNDERGROUND



Type D-O and D-10 Gauge for basement tank installations with 2" and 1½" openings respectively.

Type D-U Gauge for underground tank installations. Fits 2" openings only.

ACCURATE, DEPENDABLE, WEATHERPROOF GAUGES
Easy to install...Easy to read!

Unaffected by specific gravity changes or variations, Sentry Remote Gauges accurately indicate liquid level at all times. Simplified mechanical operation eliminates unnecessary fittings, bulbs or levers for serviceman to tamper with as well as his need for access to building. Remote Gauge may also be combined with At-A-Glance Direct Gauge, shown below, for readings at both tank and remote location if desired. Non-corrosive, stainless steel and brass extension lines connect tank float with heavy-duty cast aluminum, weatherproof, thermometer type indicator — calibrated in fractions. Unconditionally guaranteed. Write for descriptive literature.

Sentry AT-A-GLANCE GAUGES
For accurate DIRECT tank readings

Fastest selling, most popular gauge in the industry. Simplified mechanism eliminates gears, cams, springs and magnets that wear out and cause trouble. Durably constructed with patented assembly featuring unbreakable, fog-proof, heavy-duty double plastic domes with printed calibration scale between for clear, easy-to-see readability from any direction. Gauge is Underwriters' Listed and will withstand in excess of 70 lbs. air pressure per sq. inch. Entire unit is non-corrosive and guaranteed leakproof under pressure filling and against defective operation, workmanship and materials. Quick, simple to install even on partially filled tanks. Write for complete descriptive literature.

KRUEGER *Sentry* GAUGES
GREEN BAY • WISCONSIN

1,000 gals. For small ranges, heaters and stoves, Fuel-Tone is added to No. 1 oil or kerosene at the rate of 1 oz. for each 5 gals.

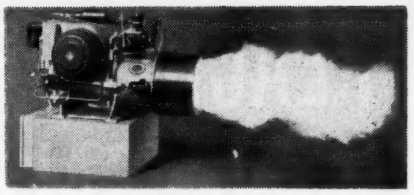
Made by: Radiator Specialty Co., Charlotte, N. C.

Circle No. C50 on card

Two industrial burner Models added to Cleaver-Brooks Line

TWO MODELS, AM5-H and AM6-H, have been added to the Cleaver-Brooks line of industrial and commercial burners. The AM5-H, which has a capacity of 25 gph, has an over-all width of 20". Height of the center of the combustion cone to the floor is 8½". It is lighter than the old model, AM5-H, which it supersedes. A switch panel box is included on the new model. The relay and motor starter are mounted in the switch panel box. An added feature is a separate tank to hold the oil used to lubricate the air pump.

Power losses and lack of air because of belt slippage are averted by use of a direct connected pancake motor. Use



of an electronic relay provides safe flame failure protection. The AM6-H, with a maximum capacity of 40 gph, uses virtually the same casting as the AM5-H, with only these differences: it has a three horsepower motor; it uses a larger oil pump; it has a larger dry oven and a larger air diffuser. Both burners furnish all combustion air under forced draft.

Made by: Cleaver-Brooks Co., Hev-E-Oil Burner Div., 326 E. Keefe Ave., Milwaukee 12, Wis.

Circle No. C51 on card

Four suspended Furnaces to Quiet Automatic Line

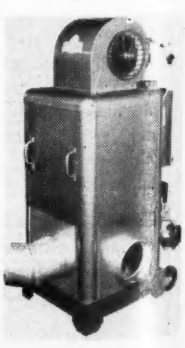
QUIET AUTOMATIC BURNER CORP. has announced four new sizes of suspended furnaces. They are Model Nos. 300, 400, 500 and 600, to bring their complete range of suspended furnaces from 70,000 Btu's to 240,000 Btu's. Each unit is ready to install. These furnaces are tested by the National Board of Fire Underwriters, New York City Board of Standards and by other municipalities and states.

Made by: Quiet Automatic Burner Corp., 33-35 Bloomfield Ave., Newark, N. J.

Circle No. C52 on card

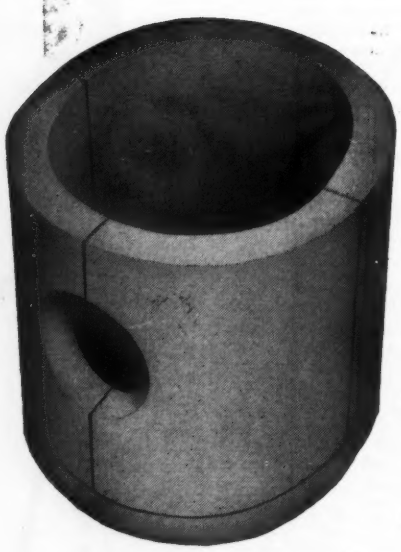
Fageol Heat Machine adapted to operate with warm air Ducts

SPECIAL SIDE PANELS are being produced for use with the Fageol Heat Machine, Model PW-189, to permit its operation with warm air ducts. These adapter panels are made of heavy sheet steel with flanged openings for duct attachment and can be installed in a few minutes time.



Addition of warm air ducts permits the use of Heat Machines in a great

Do Your PRESENT PRECAST CHAMBERS Give You ALL these Advantages?

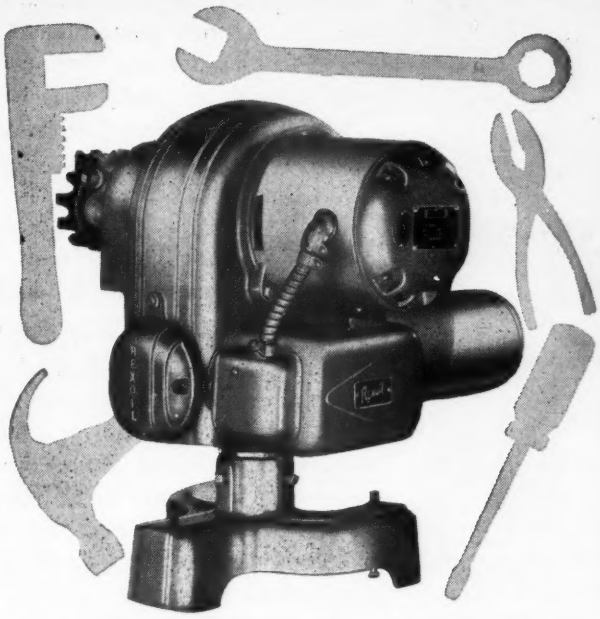


1. Low initial cost.
2. Low installation cost — only 5 pieces to assemble.
3. K-factor equal to insulating brick.
4. Excellent performance with either high or low pressure burners.
5. Scientifically packed to prevent breakage.

. . . if the answer is NO -- contact us NOW!

KOLB REFRACTORIES COMPANY Meadow & Jackson Sts. Philadelphia, Penna.

KolbKast Insulated Chambers



IT TAKES MORE THAN TOOLS TO CUT SERVICE COSTS

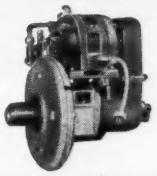
TRY THIS PLAN Install *ONE* **REXOIL**... SEE how **REXOIL'S** dependable design cuts service costs to a minimum and adds dollars to your profit column. By installing *one* **REXOIL** you'll also *see* other savings. There will be cheaper installation costs . . . greater initial profits . . . and sincere customer satisfaction. We could talk till blue in the face, — but only by observing a **REXOIL** in action can *you* see its *real* value. *So be fair to yourself* . . . install a **REXOIL** and SEE what real value **REXOIL** is!

WRITE TODAY . . . ORDER ONE REXOIL

REXOIL

Residential, Commercial and Industrial Oil Burners for #2 oil

Furnace and Boiler Units



Horizontal Rotary Oil Burner for Heavy Oils

REIF-REXOIL, INC.
37 CARROLL STREET BUFFALO, N. Y.

Aqua-air produces HOT WATER from WARM AIR!

The Aqua-air UNIT IS CREATING A SENSATIONAL DEMAND *because*

1 It produces hot water Summer and Winter from the home heating furnace—saving its user as much as $150.00 on his hot water bill. Eliminates for all time the separate costly independent hot water heating unit.

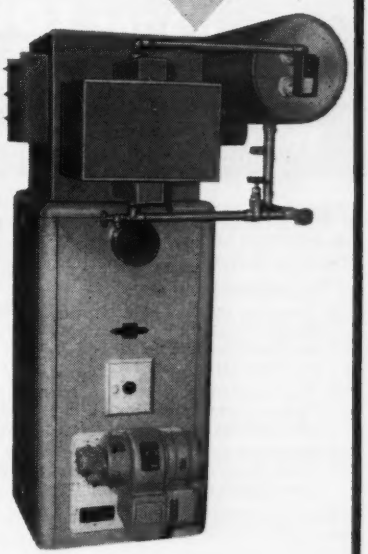
2 The **Aqua-air** UNIT is so compactly built that it can be attached quickly and economically to virtually all warm or hot air heating furnaces of any make. The owner may get back the entire cost of the unit and installation on what he saves on his hot water bill in one year.

3 The **Aqua-air** UNIT ends many of the other drawbacks of warm air heating such as those in heating kitchens, bathrooms, garages, exposed sun porches, etc.

FOR WARM OR HOT AIR HEATING SYSTEMS, THE **Aqua-air** CORPORATION BRINGS YOU THE

Aqua-air UNIT.

FOR THE FIRST TIME EMPLOYS THE AIR FROM THE HOME HEATING FURNACE TO MAKE HOT WATER.



For full information about the **Aqua-air** hot water generating unit, write today to **Aqua-air** CORPORATION, Department 19. Some exclusive franchises still available.

Aqua-air CORP
1040 HEMPSTEAD TURNPIKE
ELMONT, L. I., NEW YORK

number of applications where concentration of intense heat on one spot or transfer of heat for substantial distances is required, the company states.

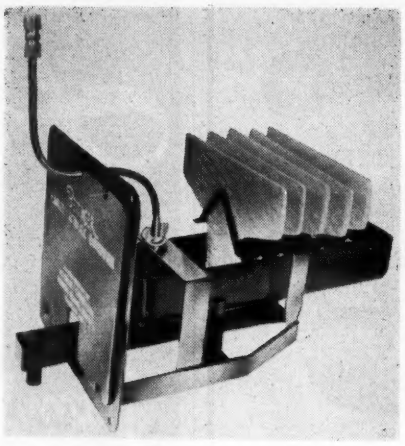
Made by: Fageol Heat Machine Co., 5725 Mt. Elliott Ave., Detroit 11, Mich.

Circle No. C53 on card

Aqua-Lever Humidifier all porcelain-on-steel

AQUA-LEVER is a floatless, warm air furnace humidifier made entirely of porcelain enameled steel, suitable for all domestic furnaces. The Aqua-Lever uses the weight of the water in the humidifier as leverage to close the valve. The porcelainized water pan uses the see-saw principle and is pivoted off center so that the weight of the proper amount of water closes the valve at the opposite end of the pan. As the water evaporates through the plates, the valve opens automatically, allowing fresh water to enter the pan.

The humidifier's constant level water control valve employs a self-flushing principle and is made entirely of non-



ferrous metal. It has an exceptionally large orifice to prevent clogging. The humidifier pan and valve are easily flushed manually from the outside by pressing a flushing lever which tilts the pan, opens the valve and floats accumulated scum and sediment out of the overflow drain.

A feature of the Aqua-Lever is that the valve seat is made of silicon rubber which will withstand temperatures of up to 600° F. Double baffle construction of the valve prevents splashing and spattering. All that is needed in the installation is to cut a 7 x 7 inch hole and make a single connection to the nearest cold water line. Fittings are included with the unit.

Made by: Bettinger Corp., Waltham, Mass.

Circle No. C54 on card

Velocity-Power Driver uses integral cartridge Assembly

VELOCITY-POWER DRIVER, weighing less than 5 lbs., uses the energy of a blank cartridge to fire steel studs into steel, masonry or concrete, without drilling, plugging or anchoring. It employs an integral cartridge-stud unit, factory-assembled to insure correct matching of the proper load for a specific stud application.

The cartridge assembly is inserted in the barrel of the device, barrel screwed into the firing unit, the Driver placed at the working point, safety arm rotated and held in position and, finally, the tool is actuated by pushing it forward sharply. The powder charge drives the piston and stud assembly forward through the barrel, the piston

It's the LOW DOWN DIRT trapped by WILSON'S HAIR FILTERS that GUARANTEES LONGER LIFE

In Wilson *Hair* Filters the entire dust-holding capacity is completely utilized. This means, *no surface dust stopping only,* but Full-Depth Dust Trapping at its best . . . and many extra months of filter life.

The *reasons* are so simple:

1. The hair media in Wilson *Hair* Filters act in the same manner as Mother Nature's proven way of filtering the air you breathe. It's the *hair* that cleans the air . . . more easily, more effectively, more economically.
2. The multi-directional distribution of the hair in Wilson *Hair* Filters literally invites all dust and dirt to come in and be trapped throughout the entire filter interior.
3. Most brands of air filters require oiling on their inlet surfaces. This stops dust prematurely, loads up the incoming air side and materially shortens filter life.

Wilson Hair Filters are not oiled on the inlet side. Instead, they receive an even distribution of mineral oil *on their outlet surface,* which:

(a) augments the already amazing ability of the hair itself, to catch and hold dust, and—

(b) builds an impregnable barrier which halts dust and dirt after reaching the furthermost practicable penetration point.

WILSON & CO., INC.
(Air Filter Division) 4100 South Ashland Ave., Chicago 9, Ill.

Wilson Hair Filters are another quality product of Wilson & Co., world-famous for meat products, sports equipment, pharmaceuticals, hair products, etc.

The famous Edgeseal, the original *Hair* Filter with the patented self-sealing edge.

The popular Honeycomb, the dressed up *Hair* Filter that is so easy to handle.

Save delay. Save dollars. Save doubt. Send for FREE sample with details and prices.

INDOOR COMFORT
WILSON'S HAIR FILTER
WILSON & CO. INC.

BASIC TEST TOOLS

FOR PROFITABLE SALES AND SERVICE

Combustion testing will pay you big dividends in gaining you competitive leadership and neighborhood recognition of your competence as a heating expert. The combustion-testing kit shown above contains precision-made, quality instruments with which you can make fullest use of your know-how in making a fuel conservation survey, adjusting any make and type of oil burner for clean, trouble-free and economical operation, or running an efficiency test which will convince even the most skeptical customer on the need for replacement or modernization.

The FYRITE Utility Kit contains instruments for measuring not only CO_2, stack temperature and draft, but smoke in the flue as well. The inclusion of the smoke-measuring instrument is a forward step of significant importance to alert heating dealers and service men. Checking the flue gas for both CO_2 and smoke makes possible to adjust the burner with speed and ease for highest possible combustion efficiency, as well as for clean burning of the fuel resulting in heating plant performance that satisfies customers and safeguards against costly service requirements.

•

The FYRITE Utility Kit shown above is part of the complete line of Bacharach Service Instruments for the Heating Trade which, in addition to Combustion Testing Kits, includes Temperature Recorders, Grille Velocity Indicators, Pyschrometers, and specialized oil-burner servicing equipment. Your wholesaler will gladly supply any of these instruments.

ASK YOUR REGULAR SUPPLIER ABOUT THE UTILITY KIT OR WRITE TO US FOR BULLETIN 777.

BACHARACH Industrial Instrument Company

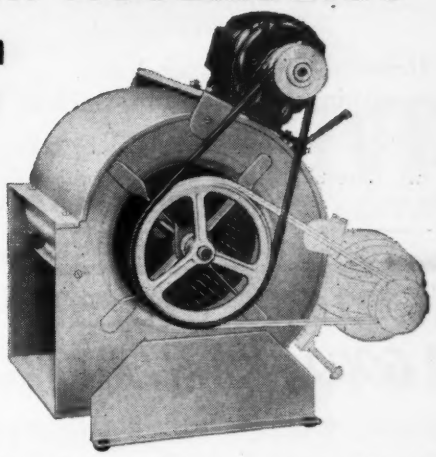
7301 Penn Avenue • • Pittsburgh 8, Pa.

Brundage

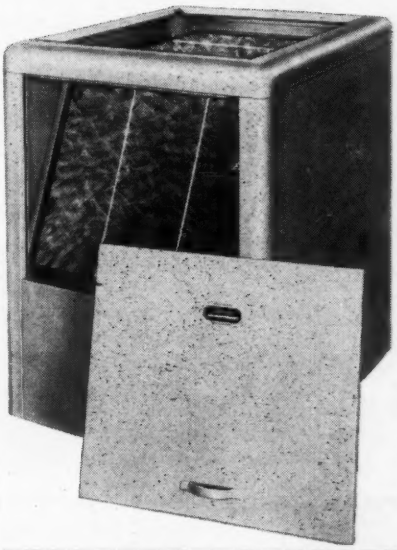
SERIES "X" BLOWER ASSEMBLIES

unequalled in performance efficiency quality

USED AS STANDARD EQUIPMENT BY MANY LEADING FURNACE BUILDERS



A standard type and size for every hi-boy, low-boy, counter-flow and horizontal furnace of 40,000 to 200,000 Btu/hr. rating at bonnet temperature rise up to 100°F. Designed and built for PEAK EFFICIENCY and DEPENDABLE PERFORMANCE. Has these unmatched features . . . Duo-multiblade wheel, statically and dynamically balanced . . . Heavy-gauge cold-rolled steel wheel for maximum efficiency . . . One-piece bridge-type motor mount . . . Self-aligning shock-resistant bearings . . . Four-point bearing suspension . . . One-piece bearing assembly.



BLOWER-FILTER UNITS

None better for any warm-air heating plant, or for cooling, ventilating and air-conditioning systems. You can depend on BRUNDAGE Quality and Performance . . . Customer satisfaction . . . MORE PROFIT!

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Please send me free literature on Brundage Blower-Filter Package Units and Series "X" Blower Assemblies.

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Kalamazoo 11, Mich.

Western Representative: Harold W. Winningham, Seattle 1, Wash.

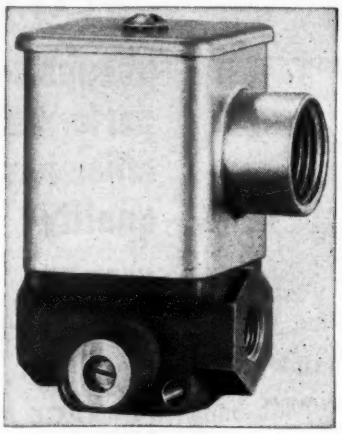
steadying the stud and sealing the expanding gases in the bore to permit full power development. An arresting block at the end of the barrel separates the piston from the stud.

Made by: Velocity Power Tool Co., 7500 Thomas Blvd., Pittsburgh 8, Pa.

Circle No. C55 on card

Delayed-opening oil Valve minimizes Soot and Carbon

TYPE K-28 is a two-wire current failure normally closed multipoised type shut-off valve with a time delayed-opening feature for use on high pressure oilburners. The valve is installed in the high pressure line between the pump and the nozzle and is wired in parallel with the oilburner motor.



After the burner motor starts, approximately six to eight seconds will elapse before the valve opens, allowing the fan to come up to normal speed before oil is discharged at the nozzle. This insures smooth clean starts as the volume of air has reached its maximum and eliminates the start-oil odors.

As the valve closes instantly when the motor is de-energized, it also eliminates the stop-oil odors and minimizes carbon coating on the nozzle and electrodes assembly. Dimensions over-all are 2 15/16" high x 2 7/16" wide. Valve is straight through and can be mounted in any position. It is available with or without by-pass.

Made by: Mercoid Corp., 4201 W. Belmont Ave., Chicago 41, Ill.

Circle No. C56 on card

One-coat masonry Coating has many Applications

MASON-COAT No. 310 is a one-coat masonry paint, an oil base paint designed for the two-fold duty of decoration and protection against moisture infiltration. It is applicable to both interior and exterior surfaces of concrete block, cement, brick, stucco, asbestos cement siding and other similar masonry surfaces.

Mason-Coat may be applied by brush or spray over either new masonry or surfaces that have been previously painted. Being extremely elastic, it withstands severe weather and temperature changes. It has hiding qualities and its one-coat feature makes it economically attractive. Mason-Coat is available in white and several tints.

Made by: United Laboratories, Inc., 16801 Euclid Ave., Cleveland 12, O.

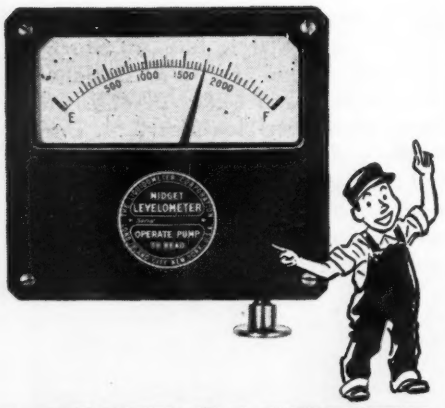
Circle No. C57 on card

Nu-Vac furnace Cleaner weighs 25 lbs.—has disposable Bag

NU-VAC FURNACE CLEANER, weighing 25 lbs., is said to be the lightest weight commercial vacuum cleaner on the market. It has a 5/7 hp. universal ball-bearing motor with two-stage turbine fan giving 56-inch water lift. Nu-Vac uses a disposable paper bag, thus eliminating the need of a dust bag. The bag is inside the can, above dirt while in operation. Dirt is bagged when can is turned upside down after use. The bag holds three-quarters of a bushel dirt. Double protection against blowouts is provided. An outer cloth bag reinforced with wire frame surrounds the paper bag.

It offers the further advantage of

A GOOD GAUGE COMPLETES A GOOD INSTALLATION



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Tank Gauges
"THEY'RE ALWAYS DEPENDABLE"

"LIQUIDS WORTH STORING ARE WORTH MEASURING"

THE LIQUIDOMETER CORP.
36-19 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

AN OUNCE OF PREVENTION

is worth a POUND of CURE

This old adage was never more true than in the case of leaking connections. You know what damage they can cause . . . what they cost to repair.

Rectorseal #2 is the ounce of prevention you need to prevent such leaks. Thin in the can for quick, economical, easy application, Rectorseal #2 thickens in the joint to a plastic elasticity that maintains a perfect seal for the life of the connection. It has been proved by more than 15 years use by the oil industry. SEND FOR FREE SAMPLE. Prove to yourself that Rectorseal #2 is the finest sealing compound you ever used.

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NUMBER TWO

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OIL BURNER IGNITION WIRE

THERMOSTAT CABLE

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INSTRUMENT WIRE

Tested and approved

-for safety and dependability beyond specification

JAN-C-76 APPROVED WIRES
80-90-105°C HOOK-UP WIRE
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All Chester wire and cable features the extra dependability, long service life and easier working qualities of plastic insulation. Their tough, impervious plastic coats provide maximum immunity to abrasion, weather, oil and most chemicals. They are smooth, pull through conduit with minimum effort and present a fine appearance in exposed locations.

There's a Chester single or multi-conductor wire or cable for practically every indoor or outdoor requirement including many special constructions for the electrical, electronic, TV, radio, telephone and other industries. Why not write today for full information?

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MANUFACTURERS OF QUALITY WIRE AND CABLE
FOR EVERY ELECTRICAL AND ELECTRONIC REQUIREMENT

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EXCLUSIVE
AVAILABLE ONLY FROM CENTURY

NEW Century Lo-boys with

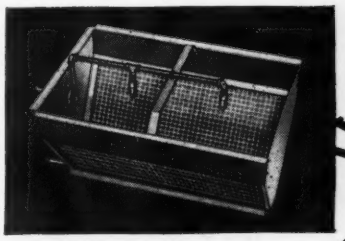
CONTROLLABLE HUMIDIFIER, AIR WASHER & PURIFIER

Enthusiastic buyers increase Century dealers' profits!

Like all heating men, you realize the true facts about humidified heat. You know humidifiers are unsatisfactory unless they can be accurately regulated to compensate for weather changes plus differences in climate and home construction. You also know how easy and profitable it would be to sell a heating line offering built-in humidity that can be controlled to the exact degree desired.

Only Century offers this important selling advantage. It's a sales-closing exclusive for Century dealers. Century dealers proudly tell their customers, "YOU — not the manufacturer — determine the exact degree of humidity for your home. A simple humidistat, placed by your thermostat, permits accurate humidity control and makes your home a more comfortable place to live. You enjoy this heating 'extra' only when you install Century."

When you sell the progressive Century automatic heating line you profit from a line that's years ahead of current standards. It's a complete line too — 38 gas and oil units that sell and satisfy.



Write today for the Century catalog and complete details. You'll be glad you did.

CENTURY ENGINEERING CORP., Cedar Rapids, Iowa.

Advertised in Better Homes and Gardens and Small Homes Guide

CENTURY ENGINEERING CORP.
416 Third St. Cedar Rapids, Iowa

Please send me further details on your complete automatic heating line.

- ☐ Gas Hi-boys
- ☐ Gas Lo-boys
- ☐ Gas Counterflow
- ☐ Gas Conversion Burners
- ☐ Oil Hi-boys
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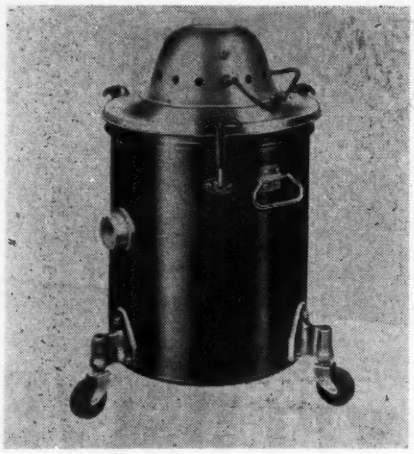
. . . pioneers in automatic heating for over 26 years



eliminating the usual stops to clean the bag, for there can be no clogging until the bag is full. Nu-Vac has no objectionable noisy whirr. It is finished in blue Hammertone. Standard equipment includes one 10-ft., heavy-duty hose, one 30-inch crevice tool, one bag cage with filter bag, one paper filter with draw string.

Made by: Empire Chemical Products Co., 10 Longworth St., Newark, N. J.

Circle No. C58 on card

Advance Dial slide Rule for pipe Measurements

PIPE FITTERS GUIDE DIAL is a circular, pocket-sized slide rule for quick and accurate computations to determine pipe lengths to connect at various angles. By rotating the dial to the desired measurements the answer is read in openings at the top of the dial. Included also are ready-reference tables on the face and back of the guide for additional information on pipes and pipe fittings.

The dial has been designed for on-the-job or office use.

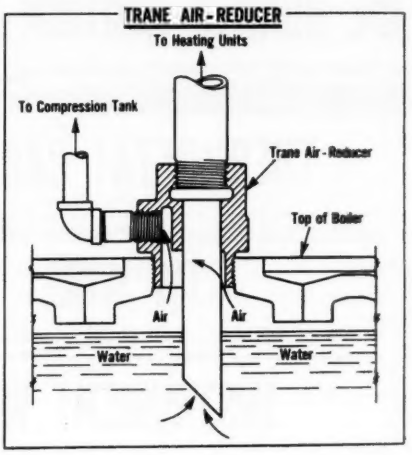
Made by: Advance Dial Co., 4458 West Gunnison St., Chicago 30, Ill.

Circle No. C59 on card

Trane Air-Reducer added to hot water specialty Line

TRANE AIR-REDUCER is a fitting for removing air at the boiler. The design eliminates two adapter connections and the Air-Reducer is, in effect, a pipe within a pipe. A brass inner tube extends the hot water system's supply main below the surface of the water in the boiler, preventing air from entering piping and heating units. Air collecting at the top of the boiler is bled off to the compression tank through the outer casting.

Further installation economies, the manufacturer says, are gained through incorporating the boiler reducing bushing into the fitting, and through eliminating a nipple by fitting the Air-Reducer directly to the boiler. The



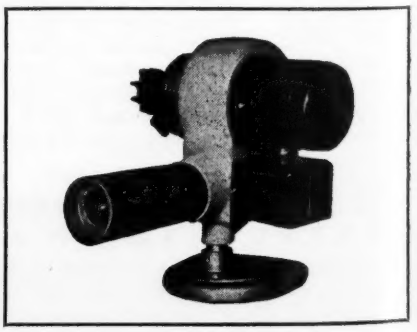
Air-Reducer is made for boiler and main sizes ranging from 1" x 1½" to 3" x 4" in standard increments.

Made by: Trane Co., La Crosse, Wis.

Circle No. C60 on card

Airflame adds steel Furnace, new burner Models to Line

AIRFLAME has announced a line of interchangeable steel warm air furnaces, made by a pioneer in the steel furnace business and designed for the flange-mounted Airflame oilburner. Durable heavy plate is used in the construction of the units which are guaranteed for a 10-year period. The guarantee, issued directly by the manufacturer to the purchaser, is sent on a card through the mails to provide a postmark direct-



GIVE YOUR CUSTOMERS THE BEST

NEW SPARKLER FUEL OIL FILTER

with the rayon filtering element traps all storage tank dirt, rust and moisture that could possibly plug the fine nozzle parts. Makes a smooth operating burner and cuts emergency service calls.
Install a Sparkler Filter along with summer servicing of burners and make a sweet extra profit on the same call.

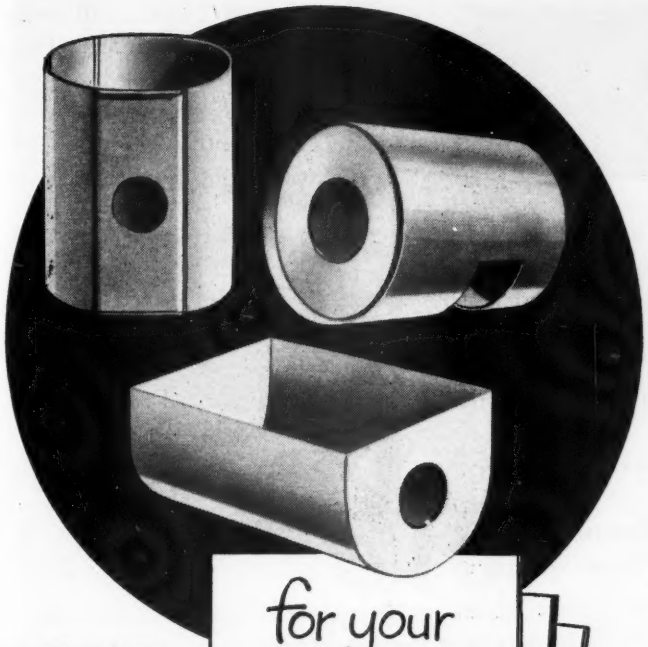
FREE to all oil burner dealers—postcards for soliciting summer service business. Write for sample and particulars.

FOUR FILTER SIZES AVAILABLE

	For average annual oil consumption of	Recommended for
OB-2	2000 gals.	Average home burner.
OB-4	4000 gals.	Apartment building and light industrial.
OB-8	8000 gals.	Heavy industrial.
SH-3	1000 gals.	Space heaters and other small burners.

Refill discs are conveniently packed 12 to a package.
The same discs are used on all OB models.

SPARKLER MANUFACTURING CO. MUNDELEIN, ILL.
Makers of fine filtering equipment for industrial use for over a quarter of a century



for your

COMBUSTION CHAMBERS

HEAT-RESISTING

STEEL

SHEARED TO SIZE

If you are using or contemplating the use of heat-resisting steels for combustion chambers for oil burner furnaces, we are specialists in producing these types of steels.

Whether you are a large or small user of these steels, our steel making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof.

1 *More quiet burner operation*
2 *Cleaner heat*
3 *Better temperature control*
4 *Considerable savings on fuel costs*

Write us for additional information

ENGINEERING B-W PRODUCTION

Ingersoll STEEL DIVISION

BORG-WARNER CORPORATION

310 South Michigan Avenue, Chicago 4, Illinois

Plant: New Castle, Indiana

ELIMINATE "PULSATING" PUFFING, SOOTING IN OIL-FIRED HEATING PLANTS WITH quickdraft

Draft is merely heated air rising up the chimney to create a negative pull over the fire. When heat is first called for, however, the chimney is usually cold and the heated air, striking the cold flue walls, is cooled and loses its buoyancy. Even if the chimney is perfect, considerable time elapses before it is heated and full draft established.

Without full draft, sufficient oxygen to support full combustion is not drawn into the fire. Resulting unburned oil vapors are wasted in the chimney, escape into the house causing objectionable odors and film or collect in the firebox causing puffing. Insufficient oxygen also results in intermittent burning or pulsating, accompanied by loud hammering. Until full draft is established, unburned carbon particles are not carried away but precipitate in radiators, smoke-pipe and chimney as soot.

quickdraft corrects this condition by creating full draft the instant firing begins, insuring an adequate supply of oxygen for complete combustion and carrying all combustion products up the chimney. Controlled by the thermostat, ***quickdraft*** operates as long as the fire is burning yet does not "build up" the draft when natural draft is functioning normally. It is especially effective where chimneys are poorly constructed or where bends or elbows in chimney or smoke-pipe retard natural draft.

quickdraft is reasonably priced, quickly and easily installed, uses no more current than a small light bulb. It is simple, fool-proof, durable . . . vitreous enamel units will not rust or wear out. *Does not restrict smoke-pipe opening, even in event of current failure.*

Use ***quickdraft*** to correct draft problems caused by low, defective and inefficient chimneys. Figure it in new installations and conversions, too, to *insure* satisfaction. Write for bulletin.

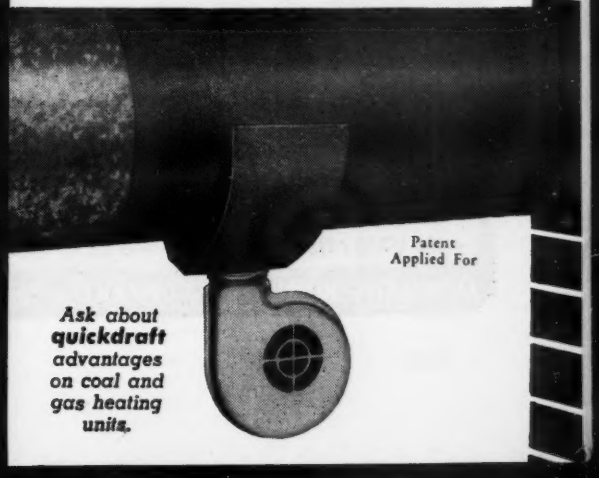
quickdraft

COMPANY

DIVISION OF THE HALL'S SAFE COMPANY, INC.

809-C 10th Street, N. E.

CANTON 4, OHIO



Patent Applied For

Ask about ***quickdraft*** *advantages on coal and gas heating units.*

ly upon the guarantee and furnish indisputable proof of its issuance.

To meet the requirements of furnace and boiler manufacturers four new models of Airflame gun type oilburners have been approved by Underwriters under Commercial Standards CS75.

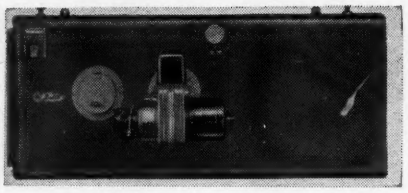
Made by: Airflame, 646 McAllister Ave., Waukegan, Ill.

Circle No. C61 on card

Delta has in Production two horizontal Furnaces

TWO NEW model horizontal furnaces are now in production by Delta Heating Corp. The largest, Model SU-210, has an output of 210,000 Btu/hr; the smaller size, Model SU-160, delivers 160,000 Btu/hr. Both models are fired with the Delta flanged, gun-type oilburner. Casing measurements for both units: length 62″; height 30″ and width 30″.

Hanger-posts are provided for suspending the furnaces from the ceiling, or four pipe legs can be fastened to the female couplings provided at the bottom to support the furnace when



used as a portable unit, or when set upon a base. Built-in refractory combustion chamber, air filter, and large sirocco blower fan are shipped with the factory-assembled unit.

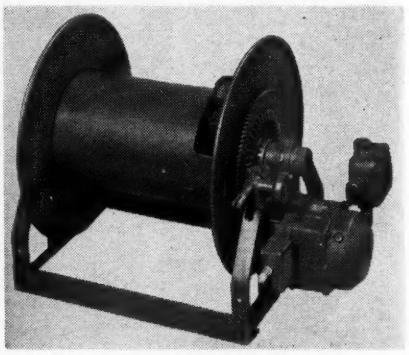
Made by: Delta Heating Corp., Trenton, N. J.

Circle No. C62 on card

Ardmore Reels feature removable hose Adapters

ARDMORE REELS, hand or powered, are equipped with removable hose adapters and anti-friction needle bearings for easy winding. The power reels are equipped with a 6 or 12-Volt starter-motor, plus an optional choice of standard weather-proof or explosion-proof switch and motor. Both hand and power reels come in side cabinet and bucket box models.

Channel steel frames, end-welded and angle-braced, are used. Drum discs are made of cold-rolled steel with smooth rolled edges. Removable hose adapters come in three sizes, 1″, 1¼″, or 1½″, with right or left hand wind.

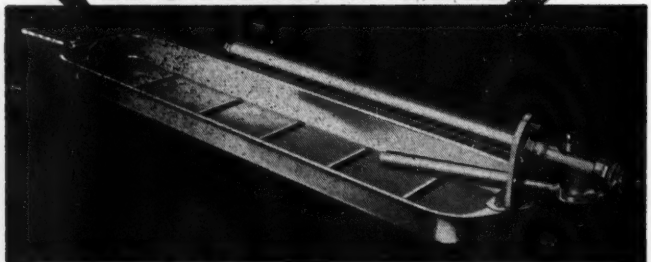


The powered models have a solenoid switch and push-button control. Worm gear drive gives positive power transmission. The compact aluminum gear box saves space and weight. The motor consumes 75 amps.

Made by: Ardmore Products, Div. of AMCO Corp., 2040 Carroll Ave., Chicago 12, Ill.

Circle No. C63 on card

MORE PROFITABLE TO INSTALL
THERMO-DRIP
AUTOMATIC
HUMIDIFIER



- VALVES DON'T LIME UP
- NO STAGNANT POOL TO REHEAT
- SUPER-SENSITIVE THERMOSTAT
- OUTSIDE SCREW ADJUSTER
- EASY INSTALLATION
- ONE KIT TO PURCHASE

Our volume sales prove it... Thermo-Drip gives furnace owners greater customer satisfacton.

Prospects easily see the advantages of humidifying by automatically dropping water on a sizzling hot stainless steel pan.

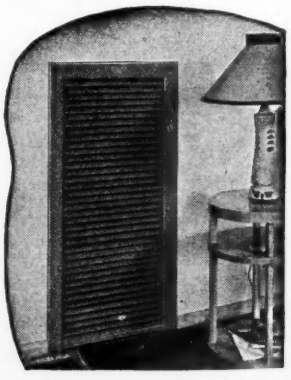
Too, it's easy to demonstrate why this method is the *most efficient, most dependable* way to put moisture in the air.

Yes—Thermo-Drip gives *faster, most efficient vaporization.*

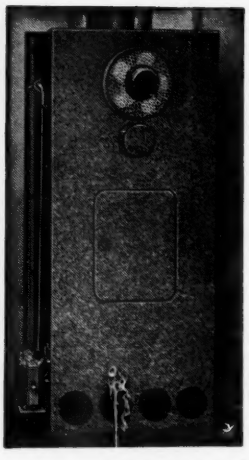
Write today for FREE literature. Dept. FO-92

AUTOMATIC HUMIDIFIER COMPANY • Cedar Falls, Iowa

CASH IN ON THE SMALL HOME BUILDERS MARKET WITH



Silent Sioux



in the wall Oil Furnace

An ideal heating system for small and medium sized basementless homes. Thermostatically controlled forced circulation . . . 44,600 BTU/hr. Requires simple installation in utility room or alcove . . . all controls and access doors readily accessible. Easier to install and service than a floor furnace. For greater sales, stock up with Silent Sioux, write to:

Silent Sioux Corporation
Formerly Silent Sioux Oil Burner Corp.
Dept. FO-92 Orange City, Iowa

STOP nuisance calls with Rochester "dual-dial" GAUGES

Don't let nuisance calls eat up your time and profits!

You can easily assure years of *trouble-free* service with Rochester DUAL-DIAL Gauges. No fumes can get out to bother your customers. The solid, pressure-tight head construction provides positive *leakproof* protection—even under pressure.

You can make tank checking and filling a snap, too . . . the easy-to-read "dual-dial" can be seen from both front and back.

Featuring permanent magnetic indication, Rochester DUAL-DIALS are Underwriters' listed. More than 2½ million are now in use. They're easy to install and stocked by leading wholesalers everywhere for all standard basement oil burner storage tanks. Rochester Manufacturing Co., Inc., 8 Rockwood Street, Rochester 10, New York.

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS

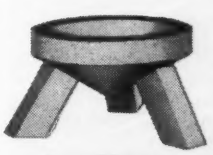
ROCHESTER DEPENDABLE ACCURACY GAUGES

FOLLOW THE PATHWAY TO PROFITS *with* WALSH REFRACTORIES FOR THE DOMESTIC HEATING INDUSTRY

COMBUSTION CHAMBERS

Walsh-Made PeTeCo Precast Interlocking Combustion Chambers assure complete burning of oil . . . full efficiency.

Greater profits on each installation . . . bigger fuel savings for your customers . . . are the extras you get in Walsh products for the domestic heating industry. On every count . . . from unexcelled manufacturing facilities to long experience, careful selection of raw materials and modern production methods, Walsh-made products assure you and your customers of unvarying high quality and dependability.



BAFFLES

Tripod type precast baffles with burnt refractory legs. Saves fuel. Reduces stock temperatures.

WALSH H & B CASTABLE

Money, time and labor saving "mix-and-pour" refractory. In 50 lb. and 100 lb. moisture-proof bags.

WALSH PRODUCTS INCLUDE:

Fire Brick • Furnace Liners • Burnt Combustion Chamber Tile Plastic Furnace Lining • Castables • Airsetting Cements Asbestos Furnace Cement • Insulating Fire Brick and Cement Insulating Cement Fill

WALSH REFRACTORIES CORPORATION
101 Ferry Street • St. Louis 7, Missouri
FACTORIES: ST. LOUIS, MO. AND VANDALIA, MO.

WALSH REFRACTORIES CORPORATION
ST. LOUIS, MISSOURI, U.S.A.
FOR OVER 50 YEARS MANUFACTURERS OF HIGH GRADE REFRACTORIES

Thatcher hot water Boiler for small homes Market

A CAST-IRON hot water boiler, Series 525, is being made by Thatcher in two sizes, 465 and 645 square feet water, and will be shipped with the boiler sections already drawn-up. Finished in maroon and gray, casings have rounded corners and will be available in two sizes: 46¼" high, 24" wide and 33" deep, extended to conceal all controls and the oilburner; or, 46¼", 24", 17", enclosing the boiler sections only.

Extra multi-tubular heat extracting surfaces of the boiler sections are designed to assure maximum heat from minimum fuel while staggered flue travel operates under low draft resistance. A supply of domestic hot water is furnished from the unit with either a tankless or tank-type heater.

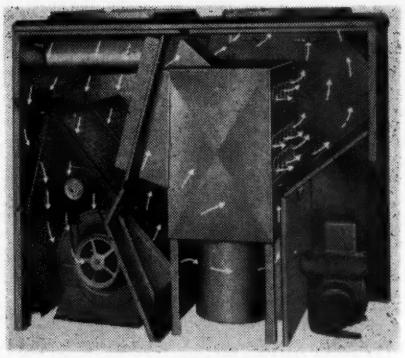
Made by: Thatcher Furnace Co., Garwood, N. J.

Circle No. C64 on card

Five domestic Furnaces added to Wondaire Line

FIVE MODELS of oilfired domestic furnaces have been added to the Wondaire line. The two smallest Wondaire models deliver 80,000 and 95,000 Btu's, respectively, at the bonnet. The 80,000 Btu Hi-Boy measures 20" wide, 24" deep and 53" high, burning 0.75 gph. The largest of the three Low-Boy units delivers up to 212,000 Btu's and measures 29" wide, 64" deep and 51" high.

Economy of operation, the manufacturer says, is made possible by special tubular construction of the heat exchanger. The pre-cast refractory is installed at the factory. A two-stage pump delivers fuel through long lines and both blower and motor are mounted free of the furnace jacket. Humidifiers are available.



Made by: Cox Mfg. Co., Ridgeville, Ind.

Circle No. C65 on card

Regency 825 equipped with two dual chamber Burners

THE REGENCY 825, oilfired space heater, equipped with two exclusive dual chamber burners, provides circulating and radiating heat flexibility for mild weather or the coldest temperatures. Each burner can be regulated inde-

A QUIET CURE.....

for misalignment, backlash, vibration, surge

LOVEJOY
Type UX Double Flex
FLEXIBLE
COUPLING

For truly quiet operation of fans, pumps and blowers, always insist on dependable Lovejoy Flexible Couplings. A special rubber center unit greatly reduces noise and increases flexibility. Lovejoy Couplings are quickly, easily installed in dark or close quarters . . . can't fall off when blower or pump units are serviced.

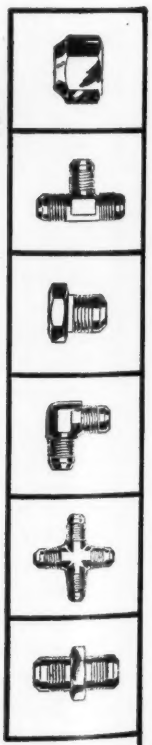
SEND TODAY FOR BULLETIN 514

IMPORTANT: Most fan manufacturers supply blowers with Lovejoy jaws on blower hubs.

LOVEJOY FLEXIBLE COUPLING CO.
5012 W. Lake Street Chicago 44, Ill.

Mfrs. of Lovejoy Flexible Couplings for all industrial services. Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints.

For a FITTING CONNECTION of long standing select MADDEN BRASS



For trouble-free service and ease of installation install Madden commercial and industrial fittings and flare nuts. They are precision machined of forged brass and extruded rods.

Write for free catalog of the complete Madden fitting and accessory line.

MADDEN BRASS PRODUCTS CO.

1111 North Franklin Street, Dept. B-9 Chicago 10, Illinois

pendently of the other by a separate dial control. In addition, a single thermostat (optional equipment) regulates both burners.

The Regency 825 delivers 78,000 Btu. Its features include furniture styling exterior, four big radiant doors, recessed front panels, mahogany finish, brass grille and door pulls, and two waist-high control dials. Duo-Therm's Power-Air blower is optional equipment on this model.

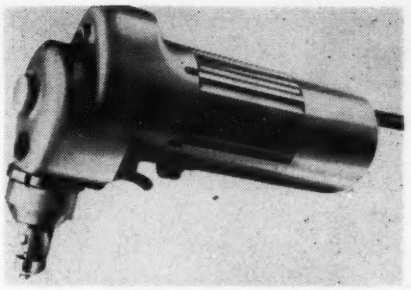
Made by: Duo-Therm Div., Motor Wheel Corp., Lansing, Mich.

Circle No. C66 on card

Lesto electric Nibbler cuts sheet Iron and soft Metals

THE NEW portable electric metal cutter, Gen-L Lesto Nibbler, fits the hand and cuts accurate curves, straight lines, inside cuts or slots. The Lesto Nibbler cuts any sheet iron, soft metal or similar material. It attains a high cutting speed and its tool head can be turned to cut in any direction in a 360° circle without turning the entire housing.

The company states that in places



that were always difficult to reach, holes and slots can now be cut without distorting the material. The Nibbler weighs six lbs., cuts up to 14 gauge metal and operates on A.C. or D.C. current.

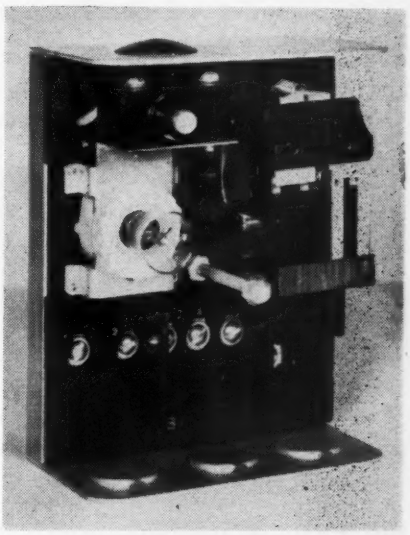
Distributed by: Victor J. Krieg, Inc., 51 West 52nd St., New York 19, N. Y.

Circle No. C67 on card

M-H alarm-silencing Relay silences, resets Signals

AN ALARM-SILENCING RELAY that is automatically reset has been introduced by the Industrial Div., Minneapolis-Honeywell to replace manual alarm shut-offs for processing control systems. The relay provides a method of shutting down the alarm while insuring automatic reset when the alarm circuit has been cleared.

In operation, when the controller switch makes contact, the alarm and pilot light are energized. When the operator pushes a button on the front



of the relay, the alarm is stopped, but the pilot light remains energized. The

KENT

Double Suction

FURNACE CLEANER

Designed for profits by one of America's foremost manufacturers of suction cleaning equipment!

V **Check KENT for PERFORMANCE!**
Powerful, efficient double-suction . . . no dust passes through fans . . . no outside dustbag!

V **Check KENT for CONSTRUCTION!**
Low center of gravity, less chance of tipping! Separates into 2 parts for easy carrying! Live outlet at switch for extension light!

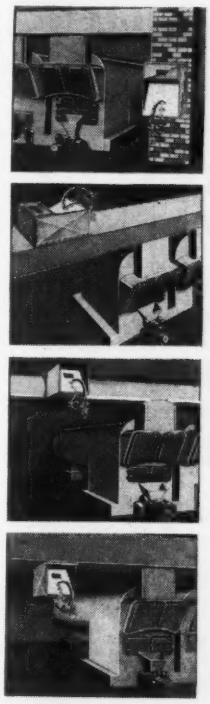
V **Check KENT for ECONOMY!**
It's built to last . . . minimum time out for repairs . . . maximum service under difficult conditions!

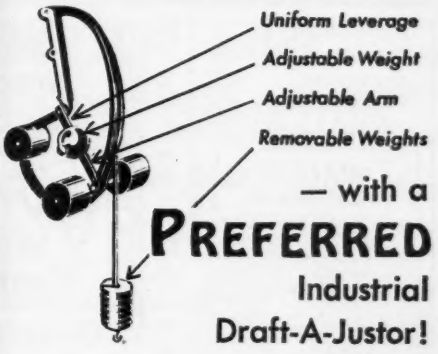
Full information upon request

CLEAN WITH KENT EQUIPMENT

The KENT Company, Inc. • 434 Canal St. • Rome, N. Y.

Make that next job a *better* job





— with a PREFERRED Industrial Draft-A-Justor!

A small detail but a big difference because you'll help your customer cut his fuel bill 10 to 30%! The Preferred Draft-A-Justor controls natural draft *automatically*. Statically balanced, easy to install and adjust. Can be mounted in any of the four positions shown — because it is 100% statically balanced.

Available in all sizes to meet your needs on any job. Write today for Bulletin 800

012

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY · NEW YORK 23, N. Y.

light will go out when the improper condition is corrected and the relay is then ready for the next cycle.

Made by: Industrial Div., Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Circle No. C68 on card

Burn-Rite announces model A-2 gun Burner

ADDITION of model A2 to its line of gun type oilburners has been announced by Burn-Rite. The new

model, rated from 0.75 to 3.25 gph, features a casting of unusually heavy, ribbed construction, machined straight through for accurate alignment.

Available in a variety of finishes, model A2 has been approved by Underwriters' Laboratories and is offered at a competitive price. All top grade components and controls are used.

Made by: Burn-Rite Products Co., 177 West First St., Mt. Vernon, N. Y.

Circle No. C69 on card

Surgemaster Compound for boiler Treatment

SURGEMASTER boiler treatment is packaged with its own test tube and water stability testing powder, recommended for effectively correcting and controlling priming, surging, foaming, rust and corrosion. A boiler is treated with one can of Surgemaster for each 600 sq. ft. of radiation, the compound being mixed with a ½ gal. of clean water and poured into the boiler.

With the water at slightly above the normal level, the boiler is allowed to steam for about 15 minutes and then a sample of boiler water is drawn into the test tube. When the testing powder is added and the water turns pink or red, the treatment is repeated until the water loses its red coloring. The job then is completed and no flushing or draining is necessary.

Made by: Stewart-Hall Chemical Corp., Mt. Vernon, N. Y.

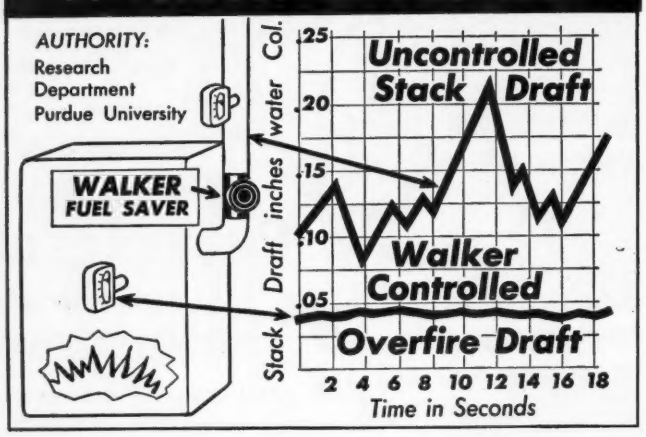
Circle No. C70 on card

Skinner-Seal saddle Tee for Tubing and iron Pipe

SKINNER-SEAL saddle tees have been developed for both O.D. copper tubing and iron pipe thread outlets, for use with a variety of equipment, including hot water heaters and humidifiers. Available in sizes from ½" by ¼" up to ¾" by ½", the units combine tee, union and nipple in one fixture. No pipe cutting nor threading is necessary.

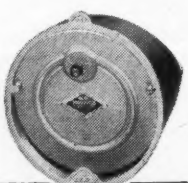
To install, the saddle tee is fitted over the pipe with the outlet headed in the proper direction and then tightened. A hole is drilled through the main, using an electric drill, breast drill or special Skinner-Seal drilling device, the branch

Here's DRAFT CONTROL
PERFORMANCE
as PERFECT as POSSIBLE



ATTAINED BY FAMOUS WALKER FUEL SAVER

This chart, based on impartial university research, shows how perfectly a Walker Fuel-Saver performs. Sound engineering...patented super-sensitive rolling contact hinge...high quality materials...expert craftsmanship assure a long life of trouble-free automatic control. There's a Walker model for every conventional heating purpose. Write for catalog.



NEW Type 34C—Domestic...for furnaces ...boilers...winter air-conditioners — stoker and oil fired.

WALKER MANUFACTURING & SALES CORP.
1750 Penn St., St. Joseph, Missouri

GEM
COMBUSTION
CHAMBERS

The Gem Clay Forming Company

SEBRING, OHIO

Established 1907

Telephone: SEbring 8-6141

line inserted. Of heavy design for a wide margin of safety, the tees will not jar loose and are made of malleable iron, cadmium plated.

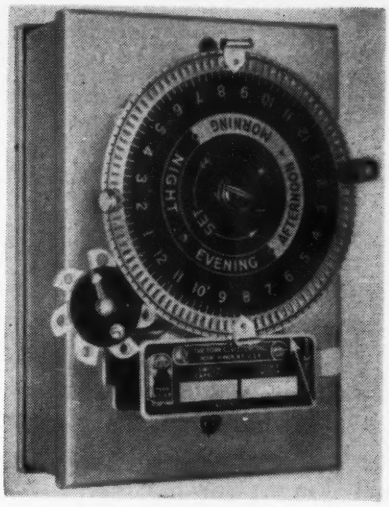
Made by: M. B. Skinner Co., South Bend, Ind.

Circle No. C71 on card

Time 'Trol Switch uses Tork Clock

TIME 'TROL, plug-in, automatic timer switch, developed by Walter H. Steiner, is designed primarily for use with air conditioners up to and including ¾ hp. capacity. The switch is timed by a Tork clock, using a Telechron motor. Its application requires no installation.

Time 'Trol has a 24 hour dial, two sets of "on" arms and two sets of "off" arms, allowing for two cycles daily. Model 9152W has an "omit" wheel, which allows the switch to remain "off" any day or combination of days desired. The switch will automatically turn to "on" again at the time for which it is set on the day when operation is desired. Unless the setting is



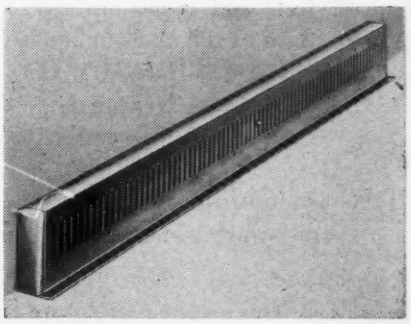
changed, it will continue to operate each week on a set schedule.

Distributed by: Time 'Trol Co., 135 Liberty St., New York 6, N. Y.

Circle No. C72 on card

Quiet Kool air Conditioner small, compact, room Unit

A 1/3 HORSEPOWER, "install it yourself," Quiet Kool room air conditioner, complete with accessory installation kit, is being offered. The design permits the main weight of the air conditioner to be balanced on the window sill proper. The unit projects nine inches into the room, and does not



Design C-F4 *of the new perimeter baseboard register made by Standard Stamping. Baseboard registers are available in 4 ft. sections, each with its own individually-operated damper control adjustable for minimum, medium or maximum volume control. The end panels will snap on any unit.*

Made by: Standard Stamping and Perforating Co., 3119 West 49th Pl., Chicago, Ill.

Circle No. C73 on card

A positive seal

for OIL • GAS
FREON • BUTANE
STEAM • WATER

Pipetite provides a positive seal for joints regardless of the type of fluid or gas being used. It is the dependable joint compound that makes good workmanship and assures user satisfaction. To be absolutely sure of "no leaks" use Pipetite. If your supplier does not have it . . . write direct.

LAKE CHEMICAL CO.
LACO BRAND
3050 W. W. Carroll, Chicago 12, Ill.

GORTON VALVES

THE SURE CURE FOR COLD RADIATORS

FAST VENTING

WRITE TODAY FOR LITERATURE AND PRICES

GORTON HEATING CORPORATION
Since 1887 — Manufacturers of Heating Equipment
CRANFORD • NEW JERSEY

extend outside the building line.

The manufacturer says the Quiet Kool can be installed by practically anyone in about 30 minutes. The cooling capacity of the air conditioner efficiently serves bedrooms up to 350 square feet, and rooms up to 230 square feet if used both night and day.

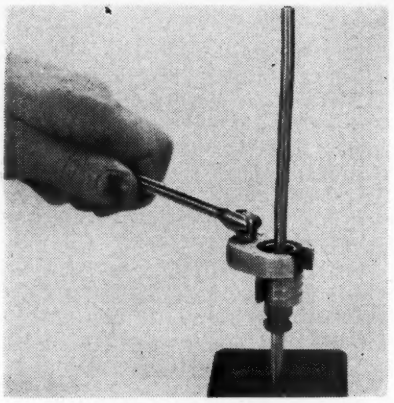
Made by: Quiet-Heet Mfg. Corp., 135 N.J.R.R. Ave., Newark 5, N. J.

Circle No. C74 on card

TAC is combination, open-end, ratchet Wrench

THE TAC WRENCH combines a ratchet, socket and open-end wrench in one tool and, with the open end on both ratchet head and socket, the tool fits over tubing, rods and studs and down into the fitting to be wrenched. It is offered in both socket and Crowfoot types, the latter being of more compact design, with the hex opening built into the ratchet ring.

There is a complete range of sockets for the socket-type open-end ratchet wrench, from 3/8" to 4" in 1/16" increments. Open ends accommodate up to



2¾" tubing or pipe in the socket type and 3" in the Crowfoot type.

The tool ratchets in only 7½° arc, in larger sizes only 5°, the hinged handle giving the tool unusual maneuverability. A flexible square drive handle permits operation in the most critically confined areas. The tool is versatile enough so that it can supplant the need for a wide variety of single-purpose hand tools.

Made by: Tubing Appliance Co., Inc., 10321 Anza Ave., Los Angeles 45, Calif.

Circle No. C75 on card

DeBothezat Ventilators for commercial Uses

DE BOTHEZAT Panel Vent Sets have been announced for positive controlled ventilation of commercial and industrial buildings. The sets have been designed for use at free delivery or relatively low static pressure and can be furnished with 24", 30" and 36" diameter fan wheels.

Air moving capacities for the five sizes available range from 5,590 to 13,190 cfm. All models have totally enclosed ball-bearing motors, wound for dual voltage, and can be equipped with shutters and safety screen guards.

Made by: DeBothezat Fans Div., American Machine & Metals, Inc., East Moline, Ill.

Circle No. C76 on card

Bristol round-chart Recorder added to Dynamaster Line

ADDITION OF round-chart recorders and automatic controllers to the line of electronic Dynamaster potentiometers and bridge instruments has been

HomEase is the Burner that offers you the Exclusive

FLAME-IZER . . . high CO_2 flame-fitting to-the individual fire-box, quickly, easily!

FIRE-STAT . . . more starting air—thus less sooting and smoking on cold starts!

MORE SALES.. GREATER PROFITS easily!

VARIOUS MODELS: .5 to 15 gph

HomEase has an important place in thousands of homes . . . has thousands of satisfied owners . . . it should have an equally important place with *you*. Get the all-important facts, *Now*

HomEase Products Company

PATERSON 3, NEW JERSEY

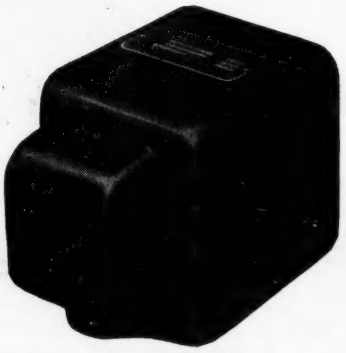
HOMEASE

THE WAY TO BETTER HEATING

OUR REPRESENTATIVES SEE VOL. II THOMAS REGISTER

DEPENDABLE PERFORMANCE

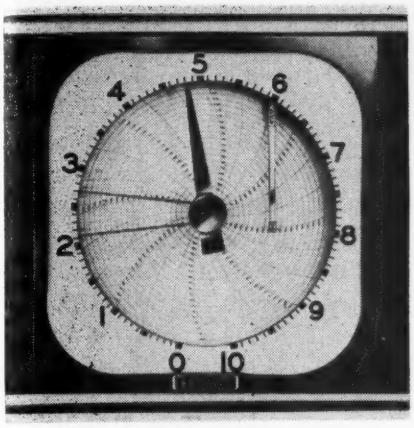
An Acme Electric transformer equipped oil burner, is visual assurance of dependable ignition performance. Heavy duty design, impregnated coils, sealed in heat dissipating compound.



ACME ELECTRIC CORPORATION

509 WATER ST. CUBA, N. Y.

Acme ACME Electric TRANSFORMERS



announced by the Bristol Co. The new round-chart Dynamaster models permit the measured variable to be simultaneously recorded on a 12-inch diameter chart and indicated on a large circular scale which is legible at a distance. Models are offered with a wide variety of ranges.

The round-chart instruments feature the same design, construction and electronic components as the company's strip-chart Dynamaster instruments. The unit's universal construction permits complete interchangeability of components. The instruments are housed in a moisture, fume and dust-proof case suitable for wall, flush-panel or front-of-panel mounting.

Made by: The Bristol Co., Waterbury 20, Conn.

Circle No. C77 on card

Gas Kit makes Hammer-head Clips

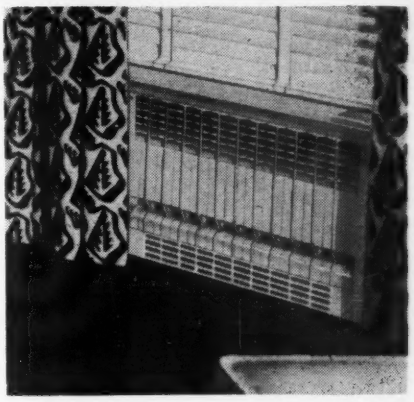
A PLATED STEEL FASTENER that will not bend or split is being made by the Gas-Kit Co., to allow for faster and neater tubing and cable installations. It is called the Hammer-Head; it is driven half way into the wood, tubing attached, and hammered in all the way. No nails are necessary when the Hammer-Head is used and it can be removed if type of installation must be changed. One Hammer-Head can be used for fastening two sizes of tubing: ⅜" and ½" O.D. Especially suitable for radiant heating, the Hammer-Head has a square bottom which punches the hole and prevents the board from splitting.

Made by: Gas-Kit Co., Inc., Griswold St., Glastonbury, Conn.

Circle No. C78 on card

New radiant front Radiator developed by U. S. Radiator

THE NEW U. S. Radiator Corp. radiant front radiator combines both radiant and convected heat. It has an additional front air inlet for higher efficiency. The radiator is 20" high and it can be used as a free-standing radiator or recessed in the wall. It forms its own



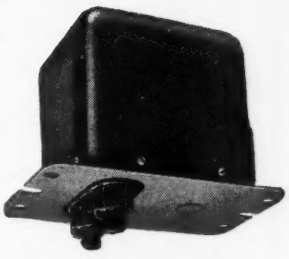
cabinet and requires no separate enclosure. Matching snap-on grilles provide complete concealment of piping.

Made by: U. S. Radiator Corp., 300 Buhl Bldg., Detroit 26, Mich.

Circle No. C79 on card

DONGAN TRANSFORMERS

THE RESULT OF 43 YEARS OF "KNOW-HOW"



DONGAN Transformers are the embodiment of 43 years of experience in the specialized field of transformer design and construction. This accounts for their many outstanding features—features which have made the name Dongan the synonym for dependability in oil-burner ignition.

Voltages from 5,000 to 20,000.
A variety of sizes and mountings

WRITE FOR Literature

Dongan Electric Manufacturing Co.
2981 Franklin Detroit 7, Mich.
"The Dongan Line Since 1909"

NOW is the TIME to "CLEAN-UP" with a GRAND RAPIDS FURNACE CLEANER

Act Now! Get in on this year's cleaning profits. *Order a Grand Rapids Furnace Cleaner.*

IT'S FAST—Handles twice as many jobs as the ordinary furnace cleaner.

IT'S THOROUGH—High velocity suction completely removes ashes, soot, scale and dirt from every type of heating plant.

IT'S COMPLETE—A packaged unit with practical cleaning attachments designed for fast, easy cleaning.

IT'S PROFITABLE—The trouble-free operation and speedy service of the Grand Rapids Furnace Cleaner puts extra profits in your pockets.

Send today for complete information about the Grand Rapids Furnace Cleaner.

DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan

Level has built-in Protractor, third lighter than Aluminum

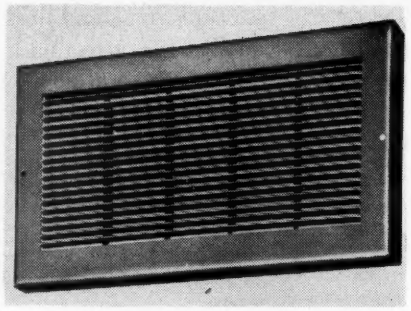
THE "PROTRACTOR LEVEL" developed by the J. H. Scharf Mfg. Co. is unbreakable and made of extruded magnesium—a third lighter than aluminum. The new level will eliminate guessing at difficult angles and fussing with tape and protractor. It measures drop per foot—a turn of the dial gives the angle or drop per foot needed. "Protractor Level" can be used to measure existing angles or can be used to determine the correct angle needed. Provisions have also been made for quick setting of ¼" per foot drop, which is especially valuable for plumbers. Seven sizes are from 24" to 72".

Made by: J. H. Scharf Mfg. Co., Omaha, Nebr.

Circle No. C80 on card

Lima Register makes Change in feature of two Grilles

THE LIMA REGISTER CO. has announced a new feature in its Series 20 baseboard return air faces and its Series 10FG



flat sidewall grilles. The horizontal louvers on these two series of grilles have been deflected downward 23° to avoid the possibility of looking between the louvers at the stackhead or building construction behind the grilles. This change of the horizontal louvers has no effect on the free flow of air through the grille.

Made by: Lima Register Co., Lima, O.

Circle No. C81 on card

Maximum heat Transfer now with half the Steel

DESIRED BTU TRANSFER can now be achieved with a unit only half the size needed using conventional methods. The unit, known as Platecoil, has more than double the Btu capacity per square foot area of pipe coil. Platecoils require less steel because the heating solution flows in channels formed by joining the two embossed metal surface plates. Thus, a plate type unit has more prime heating surface in a given area than can be obtained with pipe coil; so, Platecoil will heat a tank in less time. According to the manufacturer, Platecoils can be used wherever pipe coils are used throughout the industry and have many applications not readily accomplished by pipe coils.

Made by: Kold-Hold Mfg. Co., Lansing, Mich.

Circle No. C82 on card

Cash announces relief Valve from 30 to 125 lbs. Pressure

CASH-ACME's type F-51 is a safety relief valve for use on hot water space heating boilers, tanks and heaters and is available in pressure settings from 30 to 125 lbs., with corresponding Btu ratings at various settings. It was de-

Here's the S.O.S. product of the month

AIROUT . . . eliminates air pockets from hot water systems quickly and effectively by absorbing the excess oxygen present in the water. No bleeding or manual venting necessary. Simply drain sufficient water from system. Introduce AIROUT thru any opening, or pump in thru draw-off valve.

A liquid, chemical deoxidizer, AIROUT will prevent corrosion. Does not affect heat transfer. For use in radiant, baseboard, panel or convector hot water systems.

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THIS pocket-size book shows the required radiation for all rooms of ordinary size with from one to three windows, one to three exposures, and every combination of walls exposed.

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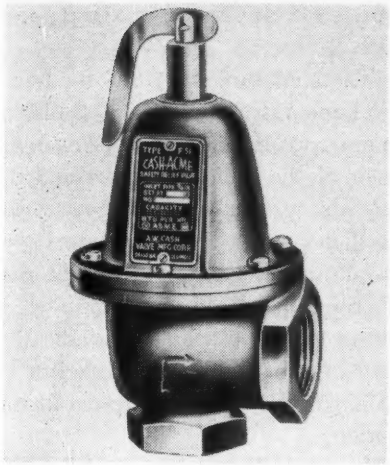


veloped to conform to the recommendations of the National Board of Pressure Vessel Inspectors and A.S.M.E. to size safety relief valves according to the Btu generating capacity of the boiler.

Type F-51 has sufficient capacity to relieve pressure both due to thermal expansion of water, as well as steam which is caused by failure of the firing device to shut off. It is an all-bronze valve, incorporating high lift design, stainless steel spring and silicone seat disc.

Made by: A. W. Cash Valve Mfg. Corp., Wabash and Morgan, Decatur 60, Ill.

Circle No. C83 on card

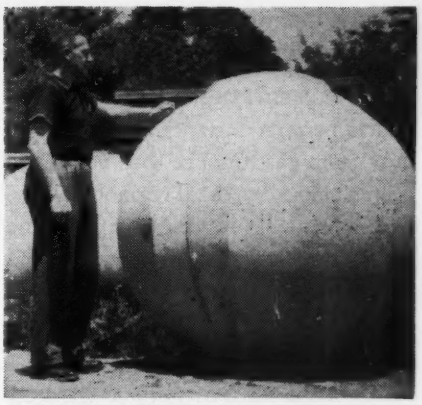
Fageol adds larger Size portable Furnace

FAGEOL Dual Purpose Model 189 has been announced, a portable oilfired furnace delivering 189,000 Btu/hr, 49,000 Btu/hr more than the capacity of previous models. Using the same principle of distribution as in the other models, heated air is sprayed out at floor level over an area of approximately 3,000 sq. ft., concentrated in a work zone from the floor to about 6 ft. in height.

Model PW-189 is so designed that it can be converted easily to a cool air blower in summer. By changing the top blower mounting—described as a 5-minute task—the machine circulates 1,500 cfm of air.

Made by: Fageol Heat Machine Co., 5725 Mt. Elliott Ave., Detroit 11, Mich.

Circle No. C84 on card

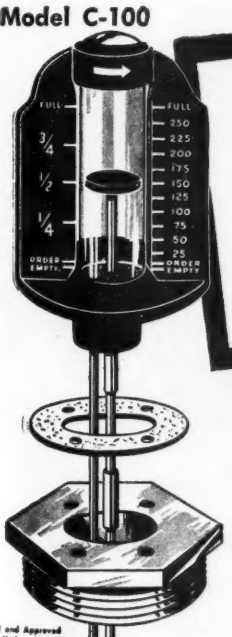


Spherical *all concrete underground fueloil storage tanks have been developed by William Varian, Jr., of Conspheres Co. The spherical design, which produces maximum strength, holds 600 gallons, measures six feet in diameter and weighs one ton. Porosity is eliminated through a precisely controlled proportion of cement, water, mixing and vibration time. The tanks are moulded in precision steel forms and then moist cured. An oil resistant pore filler next is applied in three separate coats and, finally, manhole covers, with four 2" couplings cast in, are applied and grouted in.*

Made by: Conspheres Co., Box 594, New Canaan, Conn.

Circle No. C85 on card

Model C-100



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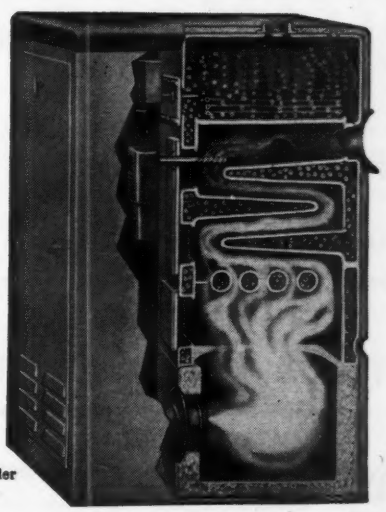

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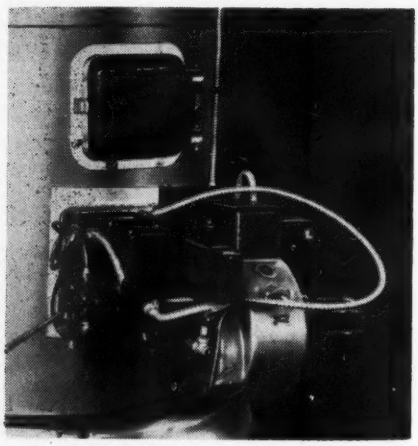
MARIETTA, PENNA.

New Thermobloc Burner permits fuel Change-over

A NEW COMBINATION OIL-GAS BURNER, which permits instantaneous change-over from gas to oil or vice versa, has been put out by the Thermobloc Div. and is available for the complete line of Thermobloc industrial type forced warm air direct-fired heaters. In



switching fuel there are no piping or burner changes needed. The change-over may be automatic or with manual pushbutton. All that is needed for completely automatic operation is an outdoor thermostat which can be adjusted to a change-over thermometer.

Made by: Thermobloc Div., Prat-Daniel Corp., 2 Meadow St., So. Norwalk, Conn.

Circle No. C86 on card

M-H air-operated Valve and miniature Models Out

A PNEUMATICALLY operated butterfly valve for control of air, water or steam flow and miniature indicators for liquid level and valve position, have been developed by the Industrial Div., Minneapolis - Honeywell. The pneumatic valve motor is described as a Grad-U-Motor power unit. It operates on a controlled air pressure range of zero to 15 psi. Adjustable mechanical stops provided on the motor enable the wing rotation to be limited for special applications. The valve is sized from 1½ to 6 inches, with screwed connections. Body, wing and trim material is bronze. Maximum operating temperature is 250 degrees F.; maximum pressure, 20 psi.

The miniature indicators for liquid level and valve position are similar in appearance, the differences being in the color of the indicating tapes and the availability of alarm switches on the level indicator. These indicators give the illusion of a liquid level sight glass by using a colored metal tape which moves vertically behind the indicating scale. Scale visibility is sufficient to eliminate the need for internal illumination.

Made by: Industrial Div., Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Circle No. C87 on card

On-the-job Painting with Spraint self-spraying Enamel

SPRAINT, self-spraying enamel, is offered for on-the-job painting or touching-up of furnaces, boilers, water heaters, radiators, piping or ductwork. Available in white, black, dull aluminum lacquers, chrome aluminum, plastic clear and a wide selection of high gloss

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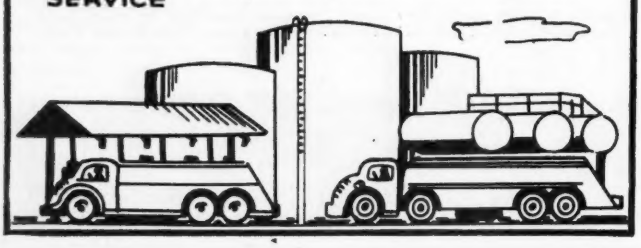

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Gulf is a name that is famous *everywhere!* It represents quality . . . dependability . . . integrity.

And when people see this famous name — GULF SOLAR HEAT — displayed on *your* truck they will naturally pick you out to get their business.

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enamels. Lacquers dry in 4 minutes; enamels dry dust-free in 15 minutes and hard in 2 hours.

A no-clog spray head on top of the can when pushed with light finger pressure emits a fine even spray of synthetic enamel, while a self-sealing threaded type type lower valve provides instant shut-off and prevents clogging.

Made by: Minit Spray Corp., Merchandise Mart, Chicago 54, Ill.

Circle No. C88 on card

Oasis air Drier for basement Use

OASIS AIR DRIER is a portable dehumidifying unit, capable of servicing up to 10,000 cu. ft. and removing 3½ gals. of water from the air each day. Intended for basement use, the unit stops moisture damage and keeps basement dry for work, play or storage. Connection to any AC electrical outlet is all that is needed to put the Air Drier in operation.

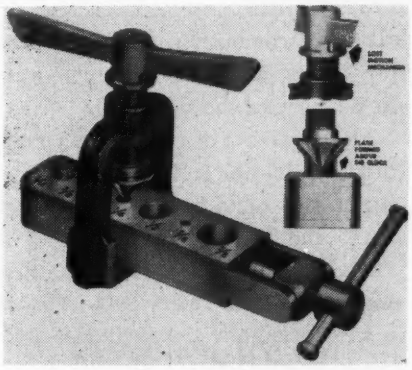
Unit has a 5-year warranty and is being featured in national advertising in a campaign that centers around a character called "Moisture Monster."

Made by: Ebco Mfg. Co., West Town at Thomas, Columbus, Ohio.

Circle No. C89 on card

Imperial Brass flaring Tool provides automatic Burnishing

NO. 500-F ROL-AIR TOOL for flaring soft copper, steel, aluminum and brass tubing, which automatically burnishes the face of the flare after it has been formed, has been announced by Imperial. The tool will make 45-



degree flares on 3/16", ¼", 5/16", ⅜", ½" and ⅝" O.D. tubing. The automatic burnishing action is provided through the use of a lost motion mechanism in the yoke which disengages the feed during the first revolution when backing off the cone. This causes the cone to burnish the flare, giving it a polished finish.

The cone is made of hardened steel, multi-faced type, with tool chrome finish. The tool's flare is formed in the air above the flaring bar assuring that the original wall thickness of the tubing is maintained at the base of the flare. The steel flaring bar is of the sliding segment type and has a single screw with rod handle for leverage.

Made by: Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago 7, Ill.

Circle No. C90 on card

Evans oil space Heaters feature "upside down Heat"

EVANS 1952 line of oilfired space heaters, ranging from 31,500 to 60,000 Btu/hr output, includes 4 basic models. By baffles, ducts and louvres, the natural flow of heat is reversed, providing "upside down heat to warm

Why THOUSANDS Prefer VIKING TRUCK MOUNTING PUMPS

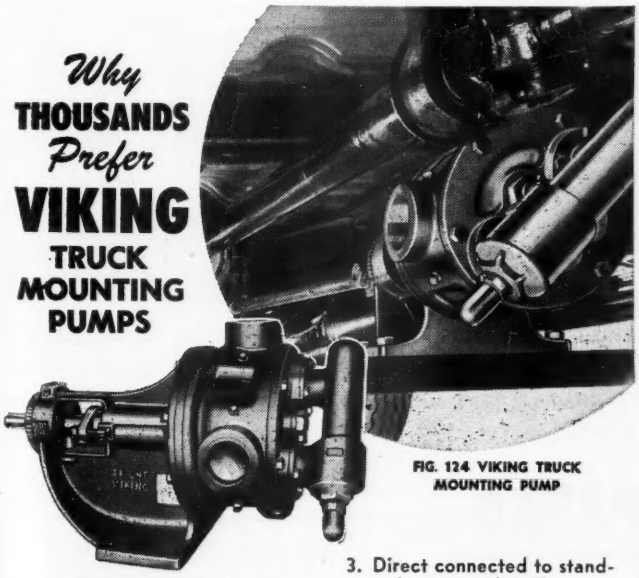


FIG. 124 VIKING TRUCK MOUNTING PUMP

1. Self priming with the VIKING "gear within a gear" principle.
2. Rugged construction. Built for hard, every-day service.
3. Direct connected to standard power take-off.
4. Compact relief valve on pump head.
5. Extra long stuffing box.
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7. Available in 35, 50, 90, 150, 200 and 300 gpm capacities.

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OIL TANKS for Basement or Underground

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Obround Basement (Vertical or Horizontal)			Round Underground		
Cap. in Gals.	Gauge	Size	Cap. in Gals.	Gauge	Size
275	14 or 12	27 x 44 x 60	285	12	38 x 60
220	14 or 12	27 x 44 x 48	550	12	46 x 76
235	14 or 12	22 x 44 x 60	1000	10	52 x 110
275	12	22 x 44 x 72			

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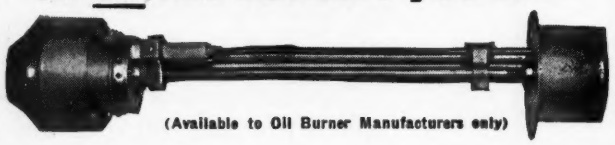

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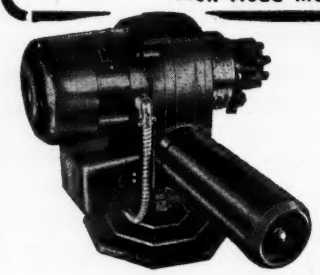

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Models from ¾ gal. to 20 gal. per hr.

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cold feet." The models pull the heated air down, fan-force it over the floor in a broad carpet and circulate warmed air at a rate of 12,000 cu. ft. per hour.

Among features of the model 161-D, illustrated, and 151-D are: Low-boy

console design, Down-Flo floor level heat, large heating areas, circulating, fan-forced and radiant heat in one unit. On these two larger models, an automatic thermostatic control and blower are optional items.

The entire line is equipped with leak-proof combustion chambers, heat trap baffles, simplified lighting, oversize heat grilles and vaporizing burner.

Also offered are two oilfired floor furnaces, 55,400 and 53,800 Btu/hr output and oilfired water heaters in 20, 30 and 40 gal. capacity.

Made by: Evans Products Co., Plymouth, Mich.

Circle No. C91 on card

Heavy-duty stapling Gun for one-hand Operation

HELLER has added a pocket-sized stapling gun, that is operated with one hand, but which is capable of fastening metal or fibre shipping tags to export boxes. It is estimated it does such work in about one-fifth of the time needed for hammer and nails.

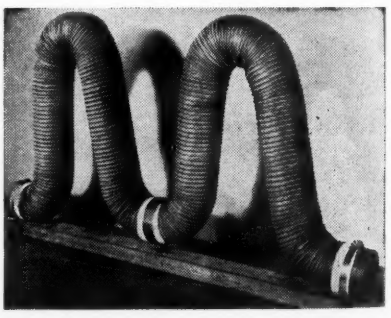
The operator holds the tag in place with one hand, shoots staples from the gun with the other. These heavy-duty staples are five times normal size, and grip wood securely with a super-clinch locking feature. Other uses include stapling shipping list protectors, fibre packing list covers, railroad box car linings and car identification tags.

Made by: The Heller Co., 2153-E Superior Ave., Cleveland 14, Ohio.

Circle No. C92 on card

Flexflyte flexible ducting withstands Heat and wear

FLEXFLYTE FLEXIBLE DUCTING consists of a fiber-glass fabric cemented to a continuous steel spring wire helix, bound with glass-fiber cord, and finally bonded together with a special elastomeric compound. It can be cut to any



desired length, and is flameproof, and resistant to both fungus and mildew.

Highly flexible, rugged, and constructed to stand up under high tem-

Use Horizontally, Vertically — Any Angle!!!

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The "Oil Blotter"

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57 South 6th Ave. Mount Vernon, N. Y.

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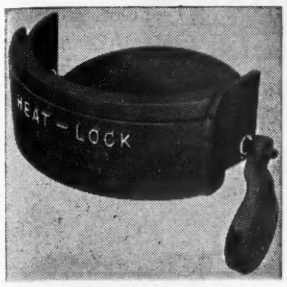

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2. The "banked coal fire" effect on burners and stokers.
3. While burner is running heat held in for up to 3 times longer.

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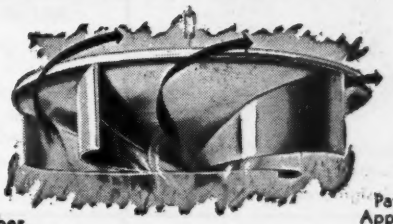

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FIRE-SWIRL ZEH COMPANY INC., PASSAIC, N.J.

peratures, Flexflyte can be snaked through and around intricate circuits and panels to provide cooling air where needed. A special aluminum coupling makes splicing easy.

Made by: Flexible Tubing Corp., Guilford, Conn.

Circle No. C93 on card

Palmer portable Cooler for window Installation

PALMER'S Snow-Breeze evaporative air cooler, direct-drive blower model B-1800-PI is adapted for window installation for cooling small apartments, rooms, offices or trailers. It moves 1,000 cfm and is completely self-contained, with built-in pump and adjustable air grille. A vertical direct drive operates blower and recirculating pump from the same motor.

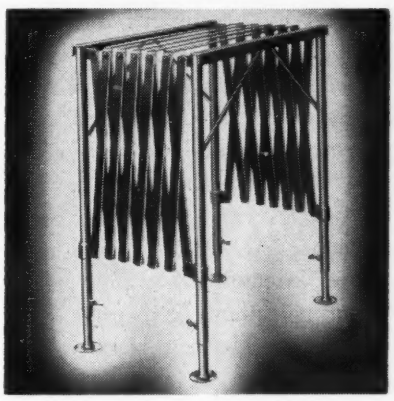
Cooler may be filled by hand or by automatic float to maintain constant water level in the cooler reservoir. The Sno-Breeze operates for circulating filtered air only, if desired.

Made by: Palmer Mfg. Corp., Phoenix, Ariz.

Circle No. C94 on card

Adjustable Table-Bench designed for varied Uses

HANDI's Fold-Away Extension Table-Bench is designed for permanent or temporary use as a bench or stock support where space and time are primary factors. The bench may be extended to a full 10 foot length or collapsed to



a minimum of 13 inches, or any length in between, without the use of tools, thumbscrews or any other mechanical locking device.

The Fold-Away, which weighs 65 lbs., will support 600 lbs. in the center and 2,500 lbs. when the weight is distributed over its entire length. From a minimum of 30 inches, the Fold-Away may be adjusted up to 42 inches in height.

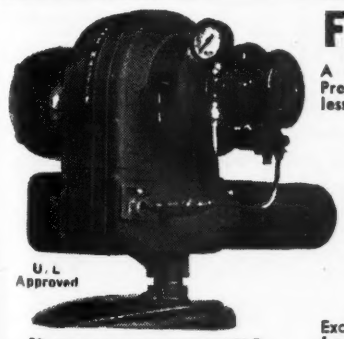
Made by: Handi Equipment Co., 908 Tenth St., Racine, Wis.

Circle No. C95 on card

Duo-Therm makes Changes in Heaters

DUO-THERM oilfired space heaters have been changed and new models added to the line. An addition has been made to the Imperial line, the 622 and 722, with 41,500 and 53,000 Btu/hr capacities, with platinum finish. Also Imperial models 624 and 724, with the same capacities, are available in mahogany finish. Model 515, with optional high-velocity power-air blower and model 525, trailer heater, also will be furnished with platinum finish.

A new 27,000 Btu/hr trailer heater



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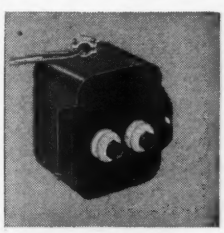
Mfgrs. of High and Low Pressure Oil Burners



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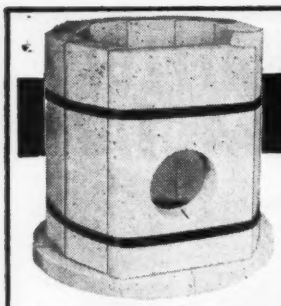

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Controlled manufacturing and careful design of American Chambers makes for fast and easy installation. The flexible pieces fit together with a minimum of effort.

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Because of the high quality of materials used in American Chambers they provide faster heat-ups, quieter burner operation and savings in fuel.

JOBBERS: Write today for price sheet.

AMERICAN CLAY FORMING CO.

TIFFIN, OHIO

. . . . New Products

has been announced. Designed as a miniature forced air heating plant, this model's over-all casing dimensions measure 48" high, 22½" long and 14½" deep. Three register outlets, plus louvers, permit combinations of over or under-the-floor duct connections. The new trailer heater has a built-in automatic power-air blower; the new Imperial models may be equipped with the blower as an extra.

Made by: Duo-Therm Div., Motor Wheel Corp., Lansing, Mich.

Circle No. C96 on card

Scott noise Meter is miniature Model

TYPE 410-B sound level meter is designed to accurately measure noise, sound and vibration from equipment such as blowers and ventilating fans. It is a rugged, compact and accurate instrument, utilizing subminiature tubes and components and operates on ordinary hearing-aid batteries. These provide about 50 hours of operation.

The meter meets all specifications of the American Standards Association for Sound Level Meters and features low-frequency range, electrical circuit improvements and mechanical design refinements. Sound-level range is from 34 to 140 decibels above standard ASA reference level of 0.0002 dynes per sq. centimeter. Accessories include carrying case, extension cables and vibration measuring equipment.

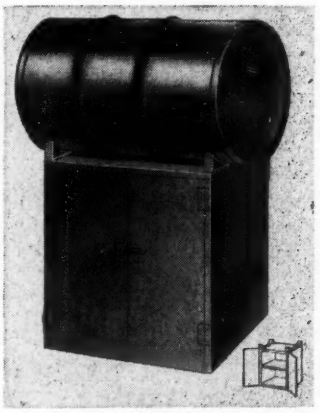
Made by: Hermon Hosmer Scott, Inc., 385 Putnam Ave., Cambridge 39, Mass.

Circle No. C97 on card

Model No. 26 *Cabinet Drum Rack is 22" deep x 30" long x 36" high. It is constructed of 22 gauge steel with cradle on top to support 55-gallon drum. The Rack has two shelves. The manufacturer says this cabinet and rack combination is a space saver as well as providing much needed storage for many supplies and equipment.*

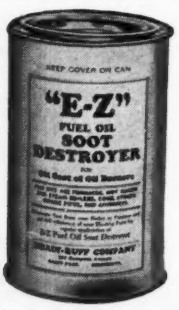
Made by: Star Welding & Mfg. Co., 1060 E. 134th St., Cleveland 10, O.

Circle No. C98 on card



E-Z Extra PROFIT

Soot Destroyer



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Government on Fuels

(*Begins on page 16*)

sented by crude oil refined there.

PAD says the purpose is to obtain data on seasonal tanker requirements and insists that it is not part of a plan to allocate tanker space to independents caught short.

"Oil Cartel" Probe Outlined

Some idea of what the Department of Justice will attempt to prove in its current grand jury inquiry into foreign oil operations was disclosed in the 378-page report by the Federal Trade Commission on its two-year investigation of "foreign oil cartels," just released under pressure from V-P Candidate Sparkman and his committee.

This report had been kept secret because of possible diplomatic repercussions. It may have been toned down somewhat—but there is still plenty of dynamite in it. Also, three suits have been filed against American companies for allegedly overcharging foreign-aid countries buying Middle East oil.

Public prestige of the entire oil industry will suffer unless the companies involved tell their side of the story—effectively.

The government is resisting all efforts to delay start of the grand jury probe even though the companies have pointed out that they have had less than 30 days to sift out all their foreign oil files back to 1928 as called for by the subpenas.

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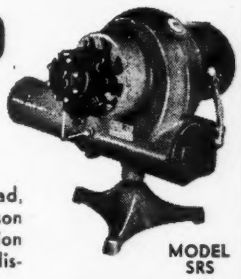

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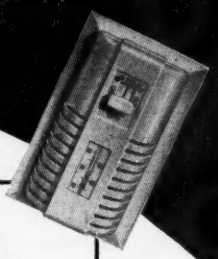

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Half-gallon Burners

(*Begins on page* 62)

be difficult for a serviceman under some conditions to properly clean a half-gallon nozzle and to be sure that it was clean and would operate after he re-installed it in the burner. It would seem logical, therefore, that the burden of service on this type of nozzle should be placed on the nozzle manufacturer. The manufacturer should furnish nozzles which are clean and which are equipped with adequate strainer or filtering devices which will keep that nozzle clean under decent field conditions. Because of the uncertainty of field service on this type of nozzle, it would seem logical that nozzles in this class should be replaced once a year. Then with a good grade of oil as indicated above and an adequate line filter, that should take care of the unit for an entire season unless there is some other condition of operation which will cause nozzle failure.

Usually, when a customer buys a smaller unit, he expects to pay less money for it. As far as nozzles are concerned, the opposite is true. The cost of production is higher instead of lower. The same is true of filtering equipment and proper oil for the job. Actually, I suspect that if it were not for our competition from bigger and better TV sets, bigger and more powerful cars, etc., etc., we wouldn't be too concerned about building smaller and cheaper heating units! If we must make smaller units, however, the good ones will not be much cheaper.

❖

Oilheating Trends

(*Begins on page* 12)

the companies did not vote against this idea but rather did not answer the question.

FUELOIL STOCKS: On August 9 stocks of No. 2 fueloil at refineries, in transit, and at terminals East of the Rockies were 78,555,000 or 11% above the corresponding date in 1951. For the East Coast only the August 9 stocks were 31,681,000 barrels or 20% above the previous year.

DEALER COMMENTS: Typical comments on various questions of the month are these . . . "If the price of fueloil goes any higher the majors will have to lend a hand to help us collect enough to pay their bills" . . . "Our bulk plant is restricted by codes; we have the land but cannot build more storage" . . . "We haven't the money to build more storage; could you help us?" Several other comments on the fueloil storage questions are being reserved to be used in the API study.

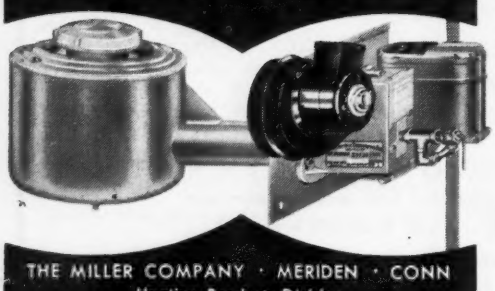
❖

Radio Shows give Contestants Wayne Equipment as Prizes

WAYNE oilburners and water softeners, made by Wayne Home Equipment Co., Inc., Fort Wayne, Ind., are currently being given as prizes on the Ladies' Fair and Take A Number programs.

Ladies' Fair, emceed by Tom Moore, is aired over 550 Mutual stations. Red Benson, who presides over the activities on Take A Number, is heard daily on 206 Mutual stations.

BURNERS designed to match specific units



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